

IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF PENNSYLVANIA

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COMCAST CABLE COMMUNICATIONS,	:	CIVIL ACTION NO. 12-0859
LLC, et al.,	:	
Plaintiffs	:	
	:	
v.	:	Philadelphia, Pennsylvania
	:	February 7, 2017
SPRINT COMMUNICATIONS	:	1:49 o'clock p.m.
COMPANY L.P., et al.,	:	
Defendants	:	
. . . . .	:	

AFTERNOON SESSION - DAY SEVEN  
BEFORE THE HONORABLE JAN E. DUBOIS  
SENIOR UNITED STATES DISTRICT COURT JUDGE

- - -

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Wilson - Direct

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1 (The following occurred in open court at 1:49 p.m.)

2 THE COURT: Good afternoon, everyone. Please be  
3 seated.

4 You may proceed with the direct examination.

5 MS. SIMPSON: Thank you, your Honor.

6 PATRICK DAVID WILSON, Resumed.

7 DIRECT EXAMINATION (Continued)

8 BY MS. SIMPSON:

9 Q Mr. Wilson, can you turn to Defense Exhibit 209, DX-209,  
10 please?

11 A Okay.

12 Q Have you seen this document before?

13 A I have seen this document before.

14 Q And how did you come about seeing this exhibit?

15 A So again my current role was special projects. We work  
16 with Apple, Samsung, and having their devices work against  
17 our network. This document is one of those systems that we  
18 have those handsets work with. So that's how I've come  
19 across this document.

20 Q And have you consulted this document?

21 A I have, absolutely.

22 Q Can you describe it for the jury a little bit?

23 A Sure. This is a design document. It covers what's  
24 called here IMS modernization. IMS stands for IP Multimedia  
25 Subsystem. You can think of it as a collection of servers

Wilson - Direct

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1 that handle voice traffic. It's kind of the new way to do  
2 voice, if you will. So this document was produced by Jason  
3 Rodriguez. That's who created it. Jason Rodriguez, long-time  
4 employee of Sprint has actually reported directly to me on  
5 several projects. In addition, Charles Wilson is listed here  
6 as the author and Charles is currently on my team. So it's  
7 an overall design document. We were changing one vendor and  
8 installing a new vendor, and that's what this document  
9 covers.

10 Q Could you please turn to page 58?

11 A We're going to focus on the diagram at the top of that  
12 page.

13 Q Okay. Could you describe the diagram to all of us?

14 A Sure. Once again this is a logical diagram. Its intent  
15 is to depict this IMS IP Multimedia Subsystem. If you look  
16 in the center of the diagram, the large box there, that's  
17 essentially the IMS system. And again this document seeks to  
18 understand what's in the IMS system, but more importantly it  
19 speaks to understand what are the other elements that speak  
20 into it? You know, what are the elements it communicates  
21 with.

22 So if you look at the top here which is labeled CDMA  
23 core there, you see things such as the MSC, you know, the  
24 mobile switching center. You see the SMSC. That's our SMS  
25 servers and other things like HLR, Home Location Register.

1 These again are some of the elements within Spring CDMA core  
2 network that speak to the IP Multimedia Subsystem. And if  
3 you look underneath those, those elements labeled the CDMA  
4 core at the top. If you see the little lines there it says  
5 it's hard to read but it says IS 41. IS 41 refers to the  
6 ANSI 41 standard of how we construct a CDMA network. That  
7 is, how those elements within the CDMA core speak to the IMS  
8 subsystem. So that's what's being depicted here.

9 Q Okay. You used the phrase logical diagram -

10 A Sure.

11 Q And I think you sort of hit on it, but I want to make  
12 sure a they understand what the new biological is.

13 A Yeah, sure. Again logical, you focus on the  
14 functionality. You don't necessarily focus on where the  
15 servers are or how many servers make up a certain piece of  
16 functionality, or how those servers are plugged into the  
17 wall, or, you know, just things like that. They're just high  
18 level logical, these are the functions, these are the logical  
19 functions that the system is for.

20 Q Okay. Focusing on the top portion, does this diagram of  
21 the CDMA core comport with your understanding?

22 A Yeah, absolutely. You know, as long as I worked in  
23 Sprint on the messaging systems, our SMS servers, the SMSE's  
24 have always been located in Sprint's core network. The only  
25 messaging servers that we've ever had outside the core

Wilson - Cross

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1 network were the Synovese picture mill servers, picture mill  
2 platform. And again, those are no longer outside of our core  
3 network. We sent with that picture mail replacement project,  
4 moved those into our core network. So yeah, absolutely.  
5 It's consistent with my understanding.

6 MS. SIMMONS: Thank you. I have no further questions.

7 CROSS-EXAMINATION

8 BY MR. GOETTLE:

9 Q Good afternoon, Mr. Wilson. I don't know if you remember  
10 me. My name is Dan Goettle.

11 A I remember you, Dan, from back in May of 2015, I believe.

12 Q Yes, when I took your deposition.

13 A Correct.

14 Q I was the Comcast attorney you referred to a few times in  
15 your direct exam, right?

16 A Absolutely.

17 Q Mr. Wilson, do you know how many times in your direct  
18 examination you used the term core network today?

19 A No, I don't. I don't believe I was counting.

20 Q Do you have any idea?

21 A I was not counting, sir.

22 Q Well, I counted and I think I may have missed a couple,  
23 but I counted and I counted 17 times in your approximately 23  
24 minutes of testimony.

25 Do you have an understanding that the phrase core

Wilson - Cross

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1 network is important in this case?

2 A I understand that - yeah, I understand that core network  
3 is kind of at the basis of what we're talking about, correct.

4 Q So it's at the basis of what we're talking about and  
5 that's why you used it 17 times in your direct examination?

6 A No. I didn't use it - well I don't know. I trust you.  
7 If you said I used it 17 times, I used it 17 times. I simply  
8 am using core network to convey to the jury what as a Sprint  
9 engineer we - that's how we talk. This is what's our core  
10 network. These are the services, these are the functions  
11 within our core network.

12 Q So that's common parlance for you to use the term core  
13 network when talking about Sprint's messaging network.

14 A Absolutely. And I think even engineers in other  
15 companies, you know, telecom engineers would, would refer to  
16 this as the core network.

17 A So it's very common when you're describing Sprint's  
18 messaging network, it would be very common for you to use  
19 core network just like you did today for this jury?

20 A We don't have a separate messaging network. We have a  
21 core network in which the messaging servers reside. Again,  
22 except for the Synovese picture mill platform, but ...

23 Q So my question was, it's common parlance for you when  
24 talking about messaging and Sprint's network, it's common  
25 parlance for you to use the term core network?

Wilson - Cross

8

1 A Yeah, depending on which part we're describing, but  
2 absolutely. We use core network all the time as a Sprint  
3 engineer.

4 Q And we referred to the deposition I took of you. That  
5 was a long day, right?

6 A I do remember it being long, correct.

7 Q And we were talking about Sprint's messaging, weren't we?

8 A We talked about a lot of things during the deposition,  
9 correct.

10 Q We talked about Sprint's messaging during your  
11 deposition, did we not?

12 A We talked about Sprint's messaging service, correct, as  
13 part of that deposition.

14 Q And you did not one time use the term core network in  
15 that entire day, did you?

16 A I'd have to go back and read the full deposition again  
17 which I have. I don't remember it word for word so I can't  
18 remember.

19 Q So you don't know one way or the other?

20 A I don't remember one way or the other.

21 MR. GOETTLE: You Honor, I'd like to hand up to the  
22 witness and to you and to counsel Mr. Wilson's deposition  
23 testimony taken in this case on May 6<sup>th</sup>, 2015.

24 Q You've reviewed your deposition before testifying today?

25 A I did.



1 Q And you see in the back it has an index.

2 A Okay.

3 Q You see that?

4 A Yeah. Again, I'm an engineer, I'm not a lawyer so I see  
5 if you can point me to the exact page or index or acc - yeah.  
6 I'm assuming this is the index again?

7 Q Okay. But even as an engineer you've used indexes  
8 before?

9 A I have used indexes before. I've only given two other  
10 depositions though, so I'm not totally familiar with the  
11 layout of a deposition.

12 Q So if you go to page four of the index you will find no  
13 reference to the word core network; is that right?

14 A Can you point me to the exact page you're referring to?

15 Q Page four.

16 A Page four, okay. Okay. I see core certainly referred to  
17 here but I don't see necessarily the two terms together, core  
18 network, correct.

19 Q Okay. And you've never seen one of these deposition type  
20 of transcripts before, right?

21 A Again, I've given two depositions over my tenure at  
22 Sprint, this being the second one. So I have seen one other  
23 deposition prior to this.

24 MR. GOETTLE: Your Honor, I apologize for  
25 interrupting my own direct, but I don't know the Court's

Wilson - Cross

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1 rules. Can I put up on the screen for the jury what we're  
2 looking at in the deposition?

3 THE COURT: We're looking at something that isn't in  
4 there.

5 MR. GOETTLE: Well, that's the point, your Honor, but  
6 I'd like the jury to see that it's not there, and also to  
7 follow along with my follow along questions in light of he  
8 answers I'm getting.

9 THE COURT: I think the jury has gotten the point.  
10 We're not going to show each and every page. Is that what  
11 you have in mind doing?

12 MR. GOETTLE: Not at all, your Honor.

13 THE COURT: No, I don't think we're going to go  
14 there.

15 BY MR. GOETTLE:

16 Q So you did mention, Mr. Wilson, that you did use the word  
17 core?

18 A Correct core is in this index that you're referring to,  
19 I'm pretty sure.

20 Q And do you see that there's one cite to it, on one page,  
21 138:7.

22 A I do see under core 138:7.

23 Q Core, core, core. I do see under Core 138:7 correct.  
24 But you see the next word down is correct in the index?

25 A I believe, I do see correct and it looks like I've used

1 that

2 extensively in the deposition, correct.

3 Q Okay. So you understand that for the word core it's only  
4 used once in this entire day that you and I spent together,  
5 you used the word core once, right?

6 A I understand what you're saying and you're conveying of  
7 what's in the index. I understand what you're saying.

8 Q Okay, so let's go to page 138, line 7 and see how you  
9 used the word core, see if it has anything to do with what  
10 you testified to today.

11 A Sorry again, you said page number?

12 Q It was page 138. We'll start at line 6.

13 A Okay, I'm there. 138 and I believe you said which line?

14 Q Line 6.

15 A Okay.

16 Q It was actually a word I used in my question to you.

17 "Question: Even though you're listed on the project  
18 core team on page five, you don't know one way or the other,  
19 et cetera." Do you see that?

20 A I see core listed, yeah, there on line 7 and it does  
21 appear that's a question that you asked me on that day back  
22 in May.

23 Q It has nothing to do with your testimony today in terms  
24 of poor network?

25 A Your question in MA has nothing to do with my testimony

1 today? Okay.

2 Q You agree.

3 A I'm sorry, again, you said page number?

4 Q It was page 138, we'll start at line 6.

5 A 138 -- okay, I'm there, 138 and I believe you said which  
6 line?

7 Q Line 6.

8 A Okay.

9 Q Okay, it was actually a word that I used in my question  
10 to you. "Question: Even though you're listed on their  
11 project core team on page 5, you don't know one way or the  
12 other," et cetera. Do you see that?

13 A I see core listed, yeah, there on line 7, like you said  
14 and it does appear that that's a question that you asked on  
15 that day back in May.

16 Q It has nothing to do with your testimony today in terms  
17 of core network?

18 A Your question in May has nothing to do with my testimony  
19 today? Okay.

20 Q Do you agree?

21 THE COURT: No, the question is the reference to  
22 "project core team", in your deposition on page 138.

23 THE WITNESS: Okay.

Wilson - Cross

13

1 THE COURT: Does that reference have anything to do  
2 with your testimony today?

3 THE WITNESS: No, not from a network perspective,  
4 again. A core team is simply something that we take the  
5 most knowledgeable people in Sprint, who are going to work on  
6 a project. We put them together and that's what we call the  
7 core team, it's kind of your brain trust, if you will, that  
8 work on a project.

9 Q Again, it has nothing to do with core network as you used  
10 today?

11 A Core team does not, does not reference core network,  
12 correct.

13 Q So, when you say core network as you use today for the  
14 jury, over 17 times, what do you mean?

15 A Can you maybe be a little more specific, I guess?  
16 Because you said I used it 17 times and which 17 -- so, can  
17 you just give me the question one more time?

18 Q Sir, sir, what is core networking?

19 A Core network is the location within Sprint's CDMA network  
20 where the servers reside that provide the fundamental  
21 services that we charge our customers for. So, voice, which  
22 is like the MSC, the HLR in order to make a phone call, those  
23 servers are located in the core. And in order to send text

1 messages, those servers are located in our core.

2 Q Okay, so when you say core network, you mean the voice  
3 switches, which is the mobile switching center, right?

4 A Voice, which is a mobile switching center, correct.

5 Q Are there others in the core network?

6 A Correct, the IT multi-media subsystem, as well.

7 Q The HLR, you said?

8 A I believe I referenced the HLR. HLR is a system within  
9 our core network, correct.

10 Q Okay and then the servers you need for, I think you said  
11 text messages?

12 A Our SMS servers are in the core network, correct. There  
13 are other servers, as well. I just gave some examples,  
14 there's a lot of servers.

15 Q Well, I'd like to know what they are.

16 A I don't have an exhaustive list, I don't --

17 Q You can't remember any others?

18 A Can't remember any others, all I'm saying is from when I  
19 was the lead on the messaging team, the messaging servers  
20 that are located within the core network include the SMS  
21 server, they include the SPS subscriber database, there are  
22 certainly a lot of other, like we reference those diagrams,  
23 right, have a bunch of other things, like AAG. There was,

1 again, there's a bunch of servers within the Sprint core.

2 Q Okay, I've got voice switches, IT multi-media subsystem,  
3 HLR, SPS, AAG, SMS servers, anything else?

4 A Absolutely.

5 Q What else?

6 A I can't give you the exhaustive list of every server  
7 that's in our core. There are systems that I do not work on.  
8 Again, I work on the specific things within Sprint. There's  
9 thousands of employees in Sprint.

10 Q Okay, so suffice to say you don't know of anything else  
11 inside Sprint's core network?

12 A I'm sure I can think of, if I had time, I could sit there  
13 and probably label more. I don't have an exhaustive list of  
14 all the servers within our core network. No, I do not.

15 Q Okay, does Sprint's core network, according to you, does  
16 it include Sprint's multi-media messaging servers?

17 A Depends on when that question is asked, it may depend on  
18 what time. Was it a picture mail time or was it --

19 Q How about right now?

20 A How about right now, the MMS servers within Sprint are  
21 located in our core network, correct.

22 Q Okay, where are Sprint's mobile switching centers?

23 A I do not know, I don't have an exhaustive list.

1 Q Okay, where are Sprint's subscriber profile systems?

2 A Again, I don't -- I don't know. I'm not the lead on the  
3 SPS system.

4 Q Where are Sprint's SMS servers, let me rephrase that if  
5 you don't mind. Where are Sprint's SMSCs?

6 A Again, I'm no longer the lead of the messaging systems.  
7 I would probably defer that to Sean Hoelzle, who is the lead.  
8 I know when I was part of the messaging team, we had servers  
9 in our North Bunker and we also had servers in our Reston  
10 data center. Again, I'm not sure if that has changed or not,  
11 given that I'm no longer the point on that team.

12 Q How about Sprint's multi-media messaging servers?

13 A Again, I would defer that to Sean Hoelzle, because like I  
14 said, that's when I did the requirements and I did the design  
15 and ultimately transitioned that over to Sean, so that would  
16 kind of be more in line with Sean Hoelzle's understanding.

17 Q So, let's look at, you have in front of you that binder.  
18 Could you go to page DX-209?

19 A DX-209?

20 Q Yeah and you were on page 58, as I recall.

21 A Okay.

22 Q And so this is the diagram that you were referring to on  
23 your direct exam?



1 A This is the diagram to which we were speaking.

2 Q And in 3.2.3.1, you were specifically referring to sort  
3 of like the top row of boxes there next to which it says CDMA  
4 core?

5 A Okay.

6 Q I'm sorry, that's a question. Is that what you were  
7 referring to?

8 A Yes, we did cover that during direct.

9 Q You did and that was it, we didn't talk about the rest of  
10 the figure, right?

11 A We talked about the stuff in the center being the fact  
12 that that's the IP multi-media subsystem.

13 Q Is everything that's shown in this figure 1-8, part of  
14 Sprint's core network as you understand that phrase to mean?

15 A No, I would say that things on the right-hand side are  
16 provisioning systems. Those are not part of -- what I would  
17 consider part of Sprint's core network. Those are kind of,  
18 you know, those are provisioning systems when you, you know,  
19 we have to know you're a subscriber, those subscribers do get  
20 provisioned then into the core. But the provisioning systems  
21 that actually do that provisioning, on the right-hand side  
22 there, are not part of the CDMA core.

23 Q You're talking about the boxes underneath the heading,

1 Packet Core Network?

2 A Yeah, the top box is provisioning. The bottom box is  
3 kind of, you know, administration, if a box were to crash,  
4 those are the systems that kind of alert people that there's  
5 a crash.

6 Q The top box being the one that's labeled IT?

7 A Top box being labeled IT, correct. Those are -- those  
8 are provisioning systems.

9 Q Okay and the bottom box being the one that's labeled OSS?

10 A Correct, those boxes are what we call operational support  
11 systems.

12 Q Okay, so focusing in on the top line next to which it  
13 says CDMA core, do you see that?

14 A We're back to the top again? I see CDMA core, okay.

15 Q Okay, LVMS, what is that?

16 A I don't know. I don't know what that is.

17 Q But you know it's in Sprint's core network, because it  
18 says so in this document?

19 A That would be my understanding, correct. But the person  
20 that generated this document does know what LVMS is and  
21 accurately depicted that as being part of the core.

22 Q So, you would just accept his word for it?

23 A Again, Jason Rodriguez, I've worked with a long time.

1 Charles Witson is on my team, very talented engineers. So,  
2 yeah, I would take their word for it.

3 Q Because you know them?

4 A Because I know them, correct and they do good work.

5 Q If you didn't know who wrote this document, would you  
6 just accept that the LVMS is part of the core network, if you  
7 didn't know who wrote it?

8 A Yeah, I probably would. Again, it's one of those things,  
9 as an engineer, you always -- anything you don't know, you  
10 kind of trust, but verify it. Especially, if I'm designing a  
11 system that had to interact with this node, this LVMS.  
12 Again, I don't know what it is. So, yeah, on first blush,  
13 absolutely I would trust that it's in the core and then as I  
14 worked through the requirements phase, like we talked about  
15 before, I would make sure I knew what LVMS was and what it  
16 did and where it was.

17 Q You said you would trust and then verify?

18 A It's an engineer's mentality, you always trust and then  
19 verify.

20 Q And how would you verify?

21 A You would start to -- first of all, you'd start to figure  
22 out what LVMS was and then figure out who owned that platform  
23 and then go talk to the lead engineer on that platform.

1 Q You'd have to talk to people?

2 A Correct, we always talk to people, correct.

3 Q How about MPC, what is MPC, which is on the other end?

4 A Yes.

5 Q What is that?

6 A It would be my understanding, again, I'm sure there's a  
7 glossary in this diagram or this document somewhere, but MPC  
8 for me, would be the mobile positioning center.

9 Q Okay and you know that to be an element of Sprint's core  
10 network?

11 A Yeah, again, I'm not the lead on the MPCs, but yeah,  
12 throughout my tenure at Sprint, I've known that to be part of  
13 the core.

14 Q Have you ever spoken to a gentleman named Mr. Mark  
15 Lanning?

16 A Mr. Mark Lanning, no, I have not.

17 Q And you've never explained to Mr. Mark Lanning anything  
18 about this document?

19 A I have never spoken to Mark Lanning, so no.

20 MR. GOETTLE: I have no other questions. Thank you,  
21 your Honor.

22 THE COURT: Thank you.

23 MS. SIMPSON: May I redirect?

1 THE COURT: Yes.

2 REDIRECT EXAMINATION

3 BY MS. SIMPSON:

4 Q If we could go back to that page you were just looking  
5 at, the IMS quarter?

6 A Sure, page 58, I do believe.

7 Q That is correct.

8 A Okay.

9 Q Okay, at the top right, what does that say?

10 A The top right --

11 Q Actually, above the -- I'm sorry -- above the diagram.

12 A Above the diagram?

13 Q Yes, above the diagram.

14 A Well, at the very top right, there's design document.

15 Q Exactly.

16 A Okay, sorry.

17 Q Can you tell the jury what a design document is?

18 A Yeah, sure. So, a designing document, it's the master  
19 source of record for your project. We typically produce them  
20 on a project basis, so whenever you're going to go do  
21 something, you create a design document. That design  
22 document is your one-stop shop for understanding everything  
23 from requirements to where we're going to install the

1 servers, who the vendor is going to be, what are the IP  
2 addresses of the systems that you're installing. It is kind  
3 of your master booklet of a platform. It's really not so  
4 platform related, I guess that is more project related.

5 Q And in your experience, do Sprint engineers intend design  
6 document to be accurate to the best of their ability?

7 A Yes, absolutely. Like I said, it's never our intent to  
8 produce an invalid document. So, as a Sprint engineer and  
9 every Sprint engineer I've worked with, within my tenure at  
10 Sprint, it is absolutely our goal, our target, our desire to  
11 produce and impact the right document. If we don't, then bad  
12 things happen. So, calls get dropped, calls, you know,  
13 complaints to care, all that stuffs. If you miss something,  
14 it could be bad and it could be kind of service-impacting, so  
15 absolutely it is our desire to produce accurate  
16 documentation.

17 Q In all your years at Sprint, including your decade while  
18 you were responsible for messaging, have you ever thought of  
19 the messaging servers for SMS to be something outside of  
20 Sprint's core cellular network?

21 A Absolutely not. From the time that I started to work on  
22 SMS servers to the time that I transitioned that  
23 responsibility over to Sean Hoelzle, in an even sense, the

Wilson - Redirect

23

1 SMS servers have always been part of Sprint's core network.

2 Q And after Sprint no longer used the Synaverse picture  
3 mail product, have you ever thought the messaging servers for  
4 MMS to be outside of Sprint's core cellular network?

5 A Absolutely not. I mean, since the picture mail  
6 replacement project, back to what I talked about before  
7 lunch, our design philosophy is to have those core servers,  
8 those core servers that provide those core services in  
9 Sprint's core network. So, yes, the MMS servers, post-  
10 picture mail days, have always been within our core network.

11 Q Thank you very much.

12 A Yes.

13 REXCROSS-EXAMINATION

14 BY MR. GOETTLE:

15 Q Have you ever read the patent in suit in this case?

16 A I do not believe I've read the patent in this case.

17 Q Have you ever reviewed the Court's claim constructions,  
18 his true and certain claim terms in that patent?

19 A I have not.

20 MR. GOETTLE: No further questions.

21 THE COURT: That concludes your testimony. Thank  
22 you very much, Mr. Wilson.

23 THE WITNESS: Thank you.

1 (Pause.)

2 MR. FINKELSON: Your Honor, Sprint calls Sean  
3 Hoelzle as it's next witness.

4 (Pause.)

5 SEAN HOELZLE, Witness, Sworn.

6 THE DEPUTY CLERK: Please state your full name and  
7 spell it for the record.

8 THE WITNESS: My full name is Sean Hoelzle, S-E-A-N,  
9 last name is Hoelzle, H-O-E-L-Z-L-E.

10 DIRECT EXAMINATION

11 BY MR. FINKELSON:

12 Q Good afternoon, Mr. Hoelzle, how are you?

13 A I'm good, how are you?

14 Q Good, thanks. Can you identify yourself for the jury,  
15 please?

16 A My name is Sean Hoelzle, I'm a telecomm engineer for  
17 Sprint.

18 Q Mr. Hoelzle, can you tell the jury what your current  
19 title is at Sprint?

20 A My current title is network engineer IV, but that doesn't  
21 really tell you much about what I do. I'm responsible for  
22 SMS and MMS messaging at Sprint. My job since 2010.

23 THE COURT: Keep your voice up.



1 THE WITNESS: Sorry.

2 Q For how long have you held that position?

3 A Since 2010.

4 Q And for how long have you been a network engineer at  
5 Sprint?

6 A I started as a network engineer with Sprint in 2004, so a  
7 little more than 12 years. I've actually worked for Sprint  
8 longer than I've been married to my wife. It's actually our  
9 ten-year anniversary this week.

10 Q Happy Anniversary, I'm not sure this is what your wife  
11 had in mind?

12 A Not exactly.

13 Q Prior to joining Sprint, did you work with another  
14 company?

15 A Yes, prior to Sprint, I worked with a company called  
16 Unisys in Malvern, PA and I was a software engineer working  
17 on telecommunication systems.

18 Q For how long, approximately, were you with Unisys?

19 A About four years.

20 Q And prior to working with Unisys, did you attend college?

21 A Yes, I did. I graduated from Villanova University in  
22 2000, with a Bachelor's Degree in computer engineering.

23 Q Where did you grow up, Mr. Hoelzle and where do you

1     reside today?

2     A     I was born in West Chester, PA, grew up between Exton and  
3     Chester Springs and currently live in Collegeville, PA with  
4     my wife and three daughters.

5     Q     Do you also work from your home in Collegeville?

6     A     Yes, I do.

7     Q     So, the jury has heard some discussion about SMS and MMS  
8     work at Sprint, but can you describe for the jury your  
9     general responsibilities as a network engineer at Sprint,  
10    that has SMS and MMS-related responsibility?

11    A     Sure, so generally, I'm responsible for architecture and  
12    design of SMS and MMS within Sprint's cellular network. That  
13    includes the messaging servers that reside in Sprint's core  
14    network. Messaging servers are basically the key pieces of  
15    equipment that allow Sprint to offer SMS and MMS service to  
16    its customers.

17    Q     Are there acronyms that are commonly used within Sprint  
18    to refer to the messaging servers?

19    A     Yes, the most common acronyms are SMSC and MMSC. Each of  
20    those each is made of a bunch of other components. But I'll  
21    spare the acronyms. SMSC and MMSC are the main ones to  
22    remember, those are the messaging servers.

23    Q     When it comes to the operation and the function of --

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1 when it comes to the operation of SMS and MMS at Sprint, will  
2 you give the jury a sense of what Sprint's messaging servers  
3 do in action?

4 A Sure, so they're basically the brains of the operation,  
5 so they're responsible for routing and delivery of messages  
6 to and from Sprint subscribers. So, that includes messages  
7 Sprint subscribers are sending to themselves, as well as  
8 messages being sent to people on other carriers, like  
9 T-Mobile for example.

10 Q So, if you take the example of an SMS message being sent  
11 from a Sprint subscriber to a T-Mobile subscriber, what is  
12 the messaging server doing in that process?

13 A So, for the example of a text message from Sprint to a  
14 T-Mobile subscriber, the SMSC would be the last place that  
15 message goes in Sprint cellular network. And the SMSC would  
16 have the job of routing that message out to the inter-carrier  
17 gateway to reach T-Mobile.

18 Q How about when it's coming the other direction? So, say  
19 an SMS message comes in to a Sprint subscriber from a  
20 T-Mobile subscriber?

21 A Sure, in the other direction from T-Mobile and to Sprint,  
22 the SMSC would be the first place that message arrives at  
23 Sprint's cellular network and the SMSC would have the job of

1 routing and delivering that message from there.

2 Q Now, when you talk about routing, can you explain what  
3 routing decisions Sprint's messaging servers make or maybe  
4 just a few examples?

5 A Sure, if we go back to the example of a T-Mobile user  
6 sending a text message to a Sprint user, when that message  
7 arrives to the SMSC, the first thing it's looking at is, is  
8 that Sprint user enabled for text messaging? So, some people  
9 decide, for example, to block text messaging for their kids.  
10 Fortunately, my oldest is only 9, so doesn't have a phone  
11 yet. So, after that step, the SMSC is looking at who the  
12 source of the message is, so Sprint allows you to both create  
13 lists of numbers that you want to block or allow specific  
14 messages from.

15 Q What would those lists be called?

16 A Typically called black lists or white lists.

17 Q And the SMSC, is the SMSC responsible for that?

18 A Yes, the SMSC is responsible for enforcing black lists  
19 and white lists.

20 Q How about once -- assume there's not a white list or a  
21 black list in place and the recipient is able to receive an  
22 SMS or MMS message. What does the messaging server then do?

23 A So, the next step is the messaging server is looking at

1 the actual message itself, to see if it contains any  
2 malicious content or spam and provided that all checks out,  
3 it's checking of the user is available, so is their phone  
4 powered on and where are they located? So, for example,  
5 Philadelphia versus New York.

6 Q So, we've all has this experience on the airplane, we  
7 turn off our phones when we were told to?

8 A Right.

9 Q And then we turned them back on when we land, some of us,  
10 immediately when the wheels on the ground, some later. But  
11 what does the SMSC doing with respect to SMS messages in that  
12 process?

13 A So, in that scenario, when you're flying and someone's  
14 sending you messages and you're phone is off, basically, as  
15 soon as you land and power on your phone, the SMSC knows that  
16 you're available and knows exactly where you are and  
17 immediately delivers your messages to you.

18 Q Mr. Hoelzle, who owns the messaging servers that Sprint  
19 currently uses for SMS and MMS messages?

20 A Sprint owns them, they were purchased from a supplier  
21 named Ecision and installed in our core network.

22 Q And who operates the messaging servers, is that also  
23 Sprint?

1 A Yes, also Sprint.

2 Q And --

3 A They're operated as part of our core network.

4 Q Sorry, I didn't mean to interrupt you.

5 A No problem.

6 Q Where are those Sprint messaging servers located?

7 A They're located at three highly secure Sprint data  
8 centers. One in Reston, Virginia and two in Kansas, outside  
9 of Kansas City. The ones in Kansas are called bunkers. The  
10 one I've been to is called the South Bunker. It's literally,  
11 the data center is literally a bunker, so it's built  
12 underground. It's covered by concrete and earth and in the  
13 event of a tornado, there's big metal doors that can come  
14 down and seal off the building, so that all of the core  
15 network equipment inside remain undamaged.

16 Q And today, are the SMSCs and the MMSCs both located in  
17 those facilities?

18 A Yes, today, all of our SMSCs are located at core sites.  
19 Previously, they were also located at switch sites, which is  
20 where the mobile switching centers are located. And our  
21 MMSCs have been located in the core sites ever since 2011  
22 when they were brought into the network.

23 Q Maybe not a fair or easy question, but can you give the

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1 jury a sense of what a messaging server actually looks like?

2 A Sure, you think of it as a collection of computer servers  
3 that are organized into a rack or a cabinet. So, the  
4 cabinets are about seven feet high, two feet wide, about four  
5 feet deep. So, each of these sites has seven or eight  
6 cabinets for SMS, seven or eight cabinets for MMS, at the  
7 sites that have MMS.

8 Q Where is the -- are you familiar with SPS?

9 A Yes, I am.

10 Q Where is the SPS located?

11 A SPS is also located at these core sites right along side  
12 the messaging servers.

13 MR. FINKELSON: Your Honor, may I approach with a  
14 binder of documents for the witness?

15 THE COURT: You may.

16 (Pause.)

17 MR. FINKELSON: Your Honor, I'd like to go ahead and  
18 move into evidence the following exhibits to which I don't  
19 believe there is any objection. DX-12, DX-13, DX-224, 230  
20 and 231.

21 THE COURT: Are there any objections?

22 MR. GOETTLE: No, your Honor.

23 THE COURT: DX-12, 13, 224, 230 and 231 are received

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1 in evidence.

2 (Defense Exhibits 12, 13, 224, 230, 231 received in  
3 evidence.)

4 MR. FINKELSON: Thank you, your Honor.

5 BY MR. FINKELSON:

6 Q Mr. Hoelzle, could I have you turn to Exhibit DX-231 in  
7 your binder of materials?

8 A Okay.

9 Q Do you recognize DX-231?

10 A Yes, I do. DX-231 is an e-mail from Patrick Wilson to  
11 myself in 2011, containing a design document related to SMS  
12 and MMS messaging.

13 Q And do you have an understanding of why Mr. Wilson was  
14 sending the design document to you, at that time?

15 A Yes, around this time in 2011, I was taking over lead  
16 responsibility on the team for SMS and MMS messaging from  
17 Patrick, who was transitioning to a different role.

18 Q What is attached to the e-mail that is the first page of  
19 DX-231 and maybe we can show the next page of the document.

20 A It's a design document.

21 Q Is it a design document in connection with messaging?

22 A Yes, it's a design document in connection with SMS and  
23 MMS messaging.



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1 Q Could you turn to DX-13, I think is what we're actually  
2 looking at now on the screen. And once you have it, my  
3 question is, is there a relationship between the attachment  
4 to DX-231 that we were just looking at and DX-13?

5 A Yes, this is just a color version of the attachment in  
6 231.

7 Q Same design document?

8 A Correct.

9 Q Let's use this one, can you give the jury a sense of what  
10 the purpose is of a design document like this, DX-13 at  
11 Sprint?

12 A Design documents are typically used for just about every  
13 project within Sprint, so they are typically the best sources  
14 of information of documenting how things are designed and  
15 deployed.

16 Q Do you rely on design documents, Mr. Hoelzle, in the  
17 course of doing your job as a network engineer at Sprint?

18 A Absolutely.

19 Q If we could turn, Mr. Baird, to page 14 and you as well,  
20 Mr. Hoelzle, you can either follow along on the screen or in  
21 the binder, whichever is most convenient for you. And just  
22 let me know when you're there.

23 A Yes, I'm there.

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1 Q Can you tell the jury what is shown in Figure 3 of this  
2 Sprint design document?

3 A Figure 3 is a diagram showing the architecture of SMS and  
4 MMS around the time I would have joined the messaging team in  
5 2010.

6 Q So, can we talk about SMS first and can you explain to  
7 the jury what this design document shows with respect to SMS  
8 at Sprint, at that time?

9 A Sure, so you can see down at the bottom, we've got  
10 MO- SMSC and NT SMSCs that are shown where it says Sprint  
11 In-Network, that big box. That indicates that they're in our  
12 core network. Back then we had separate SMSCs for mobile  
13 originated SMS, so the Sprint user who is sending the text  
14 message and MT-SMSC, which would be a Sprint user receiving a  
15 text message. So, those were both in our core network and  
16 then back then, at this period of time, our subscriber  
17 database, also shown there as messaging LDAP. Would you --

18 Q Wait, sorry, I was just waiting a second for that to be  
19 highlighted on the screen.

20 A Oh, sorry.

21 Q You said messaging LDAP, can you direct Mr. Baird to  
22 where that is in the document?

23 A Yeah, the messaging LDAP is basically, well, directly

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1 above where it says ML-SMSC. So that's our subscriber  
2 database for messaging those also located in the core.

3 Q So just for purposes of the record you were referring to  
4 a messaging LDAP. Where is the messaging LDAP in this  
5 document?

6 A The messaging LDAP is located, highlighted in yellow,  
7 directly above MOS-SMSC.

8 Q And is messaging shortened or abbreviated and how so?

9 A Oh, sorry, it's shown as MSG-LDAP.

10 Q And is the messaging LDAP and mobile-originated SMSC and  
11 the mobile-terminated SMSC all shown in this Sprint-designed  
12 document in the box that is labeled "Sprint in-network"?

13 A Yes, it is, indicating it would be part of our Sprint  
14 core network.

15 Q Do you see in the lower left-hand corner of the document  
16 a reference MSC?

17 A Yes, I do.

18 Q Is the MSC part of Sprint's core network?

19 A Yes, it is.

20 Q Is there a reason why it's depicted down in the left-hand  
21 corner in this document as opposed to in the box that says  
22 Sprint in-network?

23 A Since this was a messaging-centric document, the areas in  
24 the middle for in and off-network were focused on messaging-  
25 specific components.

1 Q And that would have -- and did that include both the  
2 messaging LDAP database and the SMSCs?

3 A Yes, it did.

4 Q Does Figure 3 of DX-13 also show the state of MMS at  
5 Sprint when you took over for Mr. Wilson?

6 A Yes, it does. So as you can see at this time in 2010 we  
7 did not have an MMSC within our core network, we were using a  
8 hosted Syniverse Picture Mail platform that sat outside of  
9 Sprint's network in a Syniverse location.

10 Q Is that reflected on this document and, if so, how?

11 A Yes, it's reflected in the Sprint hosted off-network box  
12 on the left, so you can see the MMSC right in the middle of  
13 that box there.

14 Q Now, it looks like there are a number of colors used on  
15 this document DX-13, do you see those?

16 A Yes, I do.

17 Q Green, blue, purple, and red it appears?

18 A Correct.

19 Q Do the colors in this document designate whether a  
20 component is internal or external to Sprint's core network of  
21 its cellular network?

22 A No. They're just showing different types of interactions  
23 between various components.

24 Q So for example if you look at the hosted off-network box,  
25 does that have green lines, blue lines and red lines?

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1 A Right. So you can see all those colors, the red, green  
2 and blue in the hosted off-network box as well as in the  
3 Sprint in-network box.

4 Q Let's look next if we could, Mr. Hoelzle, at DX-12. Can  
5 you tell the jury what DX-12 is?

6 A DX-12 is an email I would have received as a member of  
7 the ND messaging team in March 26th, 2012 containing a design  
8 document related to MMS messaging.

9 Q And did you receive this in approximately March of 2012?

10 A Yes, I did.

11 Q What is the design that DX-12 relates to?

12 A So this was a period of time when we were transitioning  
13 from the hosted Picture Mail platform to an in-network MMSC,  
14 so this design document details that design.

15 Q And as of this time in March, 2012 was that transition  
16 underway?

17 A Yes, it was.

18 Q And did Picture Mail from Syniverse ever relate to SMS?

19 A No, it did not.

20 Q Has there ever been an SMSC at Sprint that is external to  
21 Sprint's cellular network?

22 A No, there has not.

23 Q Can you turn, Mr. Hoelzle, to Figure 1 in this design  
24 document which appears on the page ending in 414?

25 A Okay, I'm there.

1 Q Do you see the header on the diagram by the number 3.1?

2 A Yes.

3 Q And can you describe for the jury what it says and what  
4 that means?

5 A This is called a logical end-state diagram. So this is  
6 showing logical connections between various messaging  
7 components, as well as the physical location of some of them  
8 as well.

9 Q Do you see the boxes that are labeled "Sprint Reston DC"  
10 and "Sprint NOB"?

11 A Yes, I do.

12 Q Okay. What are those?

13 A Those are the core data centers that I mentioned earlier,  
14 NOB being the North Bunker in Kansas and Reston DC being the  
15 Reston data center in Virginia.

16 Q So as of this time this document, again, sent to you by  
17 email in March of 2012, what was in Sprint's North Bunker?

18 A So at this time in 2012 we had SMSCs in the North Bunker  
19 and as of this period of time also the mobile-originated and  
20 mobile-terminated SMSCs have been collapsed to a single  
21 platform. And then at this point in time we had replaced the  
22 messaging LDAP with a platform called SPS, so that's shown  
23 right below there.

24 Q So on the document we were looking before that had the  
25 MSG-LDAP, that was the messaging LDAP?

1 A Correct.

2 Q And then you said that had been transitioned to something  
3 called an SPS by the point in time we're looking at here in  
4 DX-12?

5 A Yes, correct.

6 Q Can you explain to the jury what was located in Sprint's  
7 Reston DC, as designated on this document, as of March of  
8 2012?

9 A Sure. So in the Sprint Reston data center indicated by  
10 Reston DC we had another set of SMSCs, as well as another SPS  
11 instance.

12 Q Each of those together in the Reston data center?

13 A Yes, each in the Reston data center as part of the core  
14 network.

15 Q Is there also an MMSC shown at the Sprint Reston data  
16 center and, if so, what is it and how did it get there?

17 A So this would have been the MMSC that was first installed  
18 in around 2011, so at this time we were in the process of  
19 migrating traffic from the Syniverse-hosted MMSC onto the in-  
20 network core MMSC in Reston.

21 Q Have you ever heard the term "cap and grow"?

22 A Yes, I have.

23 Q Okay. What does that term mean, cap and grow, in  
24 connection in particular with this document we're looking at,  
25 DX-12?

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1 A It was describing the process where we would cap putting  
2 new devices onto the Syniverse Picture Mail platform and put  
3 new devices onto our in-network MMSC.

4 Q So as of the time of this document in 2012 is Syniverse  
5 still depicted here and, if so, can you show the jury where?

6 A Yes, it's still here; it's in the Syniverse-hosted box in  
7 the upper left.

8 Q And then once the transition continued, what happened to  
9 the Syniverse box?

10 A So at the conclusion of this project the Syniverse  
11 Picture Mail platform was ultimately shut down.

12 Q Mr. Hoelzle, I believe you've had the pleasure of being  
13 deposed in this case, having your deposition taken?

14 A Yes, three times.

15 (Laughter.)

16 Q I want to show you a document that I believe you were  
17 shown at one of those three depositions, it's PX-99. Do you  
18 see that in your binder of materials?

19 (Pause.)

20 A Okay, I'm there.

21 MR. FINKELSON: And I probably jumped the gun. If  
22 we could go back to the first page and just have the witness  
23 identify it.

24 BY MR. FINKELSON:

25 Q Do you recognize this document that has been marked as



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1 PX-99, Mr. Hoelzle?

2 A Yes, I do.

3 Q If you could turn to the page marked PX-99-2 and can you  
4 explain to the jury what is shown here on PX-99, page 2?

5 A So PX-99, page 2 is a high-level diagram showing various  
6 components in SMS and MMS messaging and how they  
7 interconnect.

8 Q And what is it entitled?

9 A It's entitled "High-Level Architecture Diagram."

10 Q And what type of things does it show?

11 A So you can see it's showing subscriber devices, which  
12 would be mobile phones; it's showing SMSC and MMSC, it's  
13 showing subscriber databases such as the SPS and the number  
14 database used by the inter-carrier providers, as well as the  
15 HLR.

16 Q Is this what you would call -- to be clear, is PX-99 what  
17 you would call a Sprint design document?

18 A No. This is much more informal than that, just a couple  
19 sketches of a few things.

20 Q There are additional pages in this PX-99 and I want to  
21 turn to those next.

22 MR. FINKELSON: If you could just go to the next  
23 page of this document, Mr. Beard?

24 BY MR. FINKELSON:

25 Q Do you recognize what appears on this page, PX-99-3, and

1 can you explain what it is to the jury?

2 A Yes. So this page as well as the next several pages are  
3 some basic flows for SMS and MMS messaging. I believe I  
4 commented on them during my deposition that there were some  
5 inconsistencies, some errors in the actual drawings  
6 themselves.

7 Q Do these -- does this diagram show all of the steps that  
8 occur in the course of sending an MMS message, in this  
9 instance from the -- from a non-Sprint subscriber to a Sprint  
10 subscriber?

11 A No, it's only showing a couple of the steps.

12 Q And are there additional message flows that appear on the  
13 following pages of PX-99?

14 A Yes, there are. There's a couple for MMS as well as SMS.

15 Q Would you, Mr. Hoelzle, as an engineer at Sprint rely on  
16 the message flows in PX-99 to determine the number of steps  
17 involved in sending an SMS message from one handset to  
18 another handset?

19 A No. These are very much abbreviated and don't show  
20 anywhere near the number of steps actually involved with the  
21 sending or receiving of SMS and MMS messages.

22 Q Now you anticipated my next question, which was with  
23 respect to MMS. Would you as an engineer at Sprint rely on  
24 the message flows in PX-99 to determine the number of steps  
25 involved in sending an MMS message from one handset to

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1 another handset?

2 A No, I would not.

3 Q Let me ask you to turn, Mr. Hoelzle, to what has been  
4 marked as DX-230.

5 MR. FINKELSON: And if we could just put the first  
6 page of that up on the screen.

7 (Pause.)

8 THE WITNESS: Okay, I'm there.

9 BY MR. FINKELSON:

10 Q Do you recognize DX-230?

11 A Yes, I do. DX-230 is a set of message flows that were  
12 drafted by myself and my team for SMS and MMS.

13 Q And I know there's a lot of information on here, but at a  
14 high level can you tell the jury what is shown in the message  
15 flows in DX-230?

16 A So this is showing step-by-step all of the elements that  
17 are involved in sending or receiving an MMS message, as well  
18 as the various steps along the way that a message takes to  
19 get from point A to point B.

20 Q So if this jury wanted to know the number of steps  
21 involved in sending or receiving an SMS message or an MMS  
22 message from one handset to another, as a network engineer at  
23 Sprint should this jury look at DX-230, in your opinion, or  
24 should it look at PX-99?

25 A Yes, DX-230 is much more detailed. I mean, even this

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1 probably doesn't show every single step, but way more  
2 detailed than the other drawing.

3 Q In DX-230 are there some steps -- or some flows rather  
4 for SMS and other flows for MMS and, if so, how do they  
5 appear in the document?

6 A So in DX-230 the first four -- yeah, four flows are SMS,  
7 the following three are for MMS. And I know it's probably  
8 brutal to see on your screens, but where it says VMU for the  
9 MMS flows that's representative of the Virgin Mobile brand,  
10 which is the prepaid brand of Sprint.

11 Q And what page are you on when you're referring to that,  
12 sir?

13 A Oh, I'm sorry, I'm in the bottom of the page ending in  
14 007.

15 Q I'm sorry, I didn't mean to interrupt you, but can you --

16 A No, that's fine. See where it says VMU, that's  
17 referencing Virgin Mobile. So these flows are nearly  
18 identical to the flow for a Sprint MMS sending and receiving  
19 except for the charge request steps and charge response  
20 shown.

21 Q So in the very top line is that where there's a reference  
22 to VMU?

23 A Yes, correct.

24 Q Okay. And can you explain again the relationship between  
25 VMU and Sprint and specifically how this flow relates to VMU

1 and Sprint?

2 A Sure. So VMU just stands for Virgin Mobile, so that's  
3 the prepaid brand of Sprint. So all of these steps would be  
4 identical for a Sprint subscriber sending or receiving MMS  
5 except for the charge request and charge response steps.

6 Q Okay. Let's take a look at the -- I know there's a lot  
7 of information on these, as I said --

8 MR. FINKELSON: -- let's take a look at the one that  
9 has the Bates number ending in 6, Mr. Beard --

10 BY MR. FINKELSON:

11 Q -- and also, Mr. Hoelzle, if you could turn to that one?

12 A Okay.

13 Q Maybe we can blow it up a little bit just to get a better  
14 sense of it.

15 (Pause.)

16 Q Is this one of the message flows contained in DX-230?

17 A Yes, this is a flow of an SMS being sent from a Sprint  
18 user to another Sprint user.

19 Q And in this flow do you see the SMSC?

20 A Yes, I do.

21 Q Do you see the HLR?

22 A Yes, I do.

23 Q And for the jury's benefit, although they've heard the  
24 term more than they'd like probably, what is an HLR?

25 A An HLR is a home location register, so it talks to our

1 SMSC and our cellular network.

2 Q In what language does SMSC in Sprint's cellular network  
3 talk to the HLR at Sprint when a Sprint subscriber sends an  
4 SMS message?

5 A It's sending what's called an SMS request and SMS request  
6 response that comes back from the HLR, it's detailed in the  
7 ANSI-41 standard, which would be applicable for a CDMA-2000  
8 network like we have at Sprint.

9 Q And how far back does that date, that ANSI-41 standard?

10 A It dates back to the 1990s.

11 Q Have Sprint's SMSCs talked to the Sprint HLRs in this way  
12 since Sprint first started offering SMS?

13 A Yes, since 1998.

14 Q PX-174, can we talk about that for a moment, sir?

15 A Sure.

16 (Pause.)

17 A Okay, I'm here.

18 Q Is PX-174 a document that you've ever seen in the course  
19 -- in the ordinary course of your work as an engineer at  
20 Sprint?

21 A No, it's not.

22 Q Is this a document that to your knowledge any engineer at  
23 Sprint has ever used?

24 A No, not to my knowledge.

25 Q We looked earlier at Sprint design documents related to

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1   messaging equipment; is this a design document?

2   A   No, it's not a design document.  It just --

3   Q   What is -- I'm sorry, go ahead.

4   A   It just appears to be a list of acronyms, some related to  
5   messaging, some not.

6   Q   Are you aware of any design document at Sprint that  
7   refers to a messaging network that is separate from Sprint's  
8   cellular network?

9   A   No, I am not.

10   Q   Now, by a previous witness for Comcast in this case you  
11   have been referred to as the head of the messaging network at  
12   Sprint; have you been called that ever before?

13   A   No, not that I can recall, although it sounds pretty  
14   important.

15   Q   What are you?

16   A   I'm just a technical resource on the messaging team,  
17   which is part of the network core organization.

18   Q   And with respect to PX-174, is this a document that you  
19   would rely on to tell you whether Sprint's messaging servers  
20   are inside of Sprint's cellular network or outside of  
21   Sprint's cellular network?

22   A   No.

23   Q   You talked about your three depositions in this case.  
24   What was your role in those depositions?

25   A   For two of them I was the corporate designee, as the I

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1 guess technical expert for messaging topics.

2 Q Did Comcast counsel ask you about PX-174 in those  
3 depositions as best you can recall?

4 A No, not that I recall.

5 Q In this document there's a reference to LDAP in  
6 connection with messaging; do you have an understanding of  
7 what that refers to?

8 A Yeah, given the date of 2009 on this, I would assume it's  
9 referring to the messaging LDAP.

10 Q Does LDAP also refer to a protocol, a way of  
11 communicating?

12 A Yes, it does.

13 Q Is that a way of communicating that the messaging LDAP  
14 used?

15 A Yes. It would have been the only thing using LDAP at  
16 that time.

17 Q There is a definition in here for PDR, predestination  
18 router, do you see that?

19 A Yes, I do.

20 Q Okay. Can you read the first sentence where it describes  
21 what the PDR is?

22 A It says "This is an Openwave SMS router that was used on  
23 the CDMA network."

24 Q Do you have an understanding of that reference to "on the  
25 CDMA network" and what that means?



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1 A Yeah, it's an indication that it's part of our CDMA  
2 cellular network.

3 Q Look at the SMSC several lines down, does that refer --  
4 well, what does that refer to?

5 A It refers to the SMSC and it indicates that "the vendor  
6 for the SMSC in Sprint is Acision."

7 Q And what is your understanding of that sentence?

8 A It's indicating the SMSC is within Sprint's cellular  
9 network.

10 Q The last document from me at least. I have a sneaking  
11 suspicion it may not be the last one you see, but it's the  
12 last one I'm going to show you on the direct examination and  
13 that is DX-224. And in the spirit of all the other  
14 complicated documents I've asked you to talk to this jury  
15 about, this seemed to be a fitting end. Do you have DX-224  
16 in front of you?

17 A One second, let me get it.

18 (Pause.)

19 A Okay, I have it.

20 Q And I know you live and breathe these things, but for  
21 someone who doesn't can you explain what DX-224 is at a high  
22 level?

23 A So DX-224 is what we engineers would call a trace. So in  
24 this case it's a trace of an SMS request and SMS request  
25 response, so SMS request being sent to an HLR and the HLR

1 responding back to the SMSC.

2 Q Is that a request response like the one you were just  
3 talking about a few minutes ago with respect to DX-230, that  
4 document that you prepared?

5 A Yes, it is.

6 Q And with respect to this SMS request, is there a  
7 particular protocol that it follows?

8 A Yes. If you go to page 2, midway down, you'll see where  
9 it says "ANSI-41 invoke SMS request." So that's again  
10 indicating that this message is part of the ANSI-41 standard.  
11 And then if you go to I believe it's the third page --

12 Q I think it's two pages past there perhaps.

13 A Oh, two pages? Yeah. A little more than halfway down  
14 where it says "ANSI-41 return result," that would be the  
15 response back from the HLR to the SMSC, again based on ANSI-  
16 41 specifications dating back to the 1990s.

17 Q Those are all the questions I have for you on direct.  
18 Thank you, Mr. Hoelzle. Please extend the same courtesies to  
19 Mr. Goettle in response to his questions.

20 THE COURT: You may cross-examine, Mr. Goettle.

21 CROSS-EXAMINATION

22 BY MR. GOETTLE:

23 Q Good morning, Mr. Hoelzle. I know we've met before, but  
24 just to remind you, I'm Dan Goettle, I took your deposition,  
25 one -- just one now.

1 A Yep, I remember. Good to see you again.

2 Q The last one, it was probably the most fun.

3 Mr. Hoelzle, you're not just some guy on the  
4 messaging, team, right? You lead the team, right?

5 A I'm the technical lead on the team, that's correct.

6 Q You're the technical lead on the team, the messaging team  
7 for Sprint, right?

8 A That's correct.

9 Q And you were responsible for overarching design and  
10 architecture of the messaging platforms, right?

11 A Yes, that's correct.

12 Q And you testified in this case as a Sprint-designated  
13 witness, so as a representative of Sprint about how Sprint's  
14 messaging network worked, right?

15 A Yes.

16 Q And that was because you are the most knowledgeable about  
17 Sprint's messaging services, right?

18 A Yes, that's what I testified to.

19 Q But that's right, that's right today -- it was right when  
20 you testified to it and it's right today, right?

21 A Yes, it is.

22 Q Okay. You used the term core network a couple times  
23 during your direct examination; do you recall that?

24 A Yes, I do.

25 Q Do you recall using the term core network in any of your

1 three depositions?

2 A Yes, I do.

3 Q You do remember that? Which one?

4 A I can't remember which one it was.

5 Q Okay, we'll find that.

6 A I think it was the one with -- it might have been the  
7 first one I did.

8 Q The first one?

9 A Yeah.

10 Q 2014?

11 A '13 would have been the first one.

12 Q '13? Okay. You testified that Sprint -- you've never  
13 seen a reference to messaging network of Sprint outside the  
14 context of Sprint's cellular network, right?

15 A Correct.

16 Q Okay. And one of the documents that you looked at on  
17 your direct was DX-13, right?

18 A Yes.

19 Q DX-13 was the first phase of a two-phase project, right,  
20 to change over Sprint's SMSCs from one vendor to another,  
21 right?

22 A Yes, that's correct.

23 Q That was part of the project -- it wasn't the full  
24 project, but that was part of the project?

25 A Right. Part of the project was a change in vendors, yes.

1 Q Okay. And that change involved removing from Sprint's  
2 network SMSCs where the vendor was a company called Comverse,  
3 right?

4 A Comverse was the supplier of our previous SMSCs, yes.

5 Q Okay. And when Comverse supplied the SMSCs, all of the  
6 SMSCs' short message service centers were located  
7 geographically at the switch sites?

8 A Yes, they were.

9 Q And that means they were located where the mobile  
10 switching centers were located?

11 A Yes, that's correct.

12 Q And at that time then they were not in Reston and they  
13 were not in any North Bunker in Kansas, were they?

14 A No, they were not.

15 Q But they were still part of Sprint's core network  
16 according to you?

17 A Yes, absolutely.

18 Q Okay. And then so the first phase was removing the SMSCs  
19 that handled traffic coming from a Sprint subscriber, right?

20 A Yes, the MO-SMSCs were the first ones moved to the core  
21 data centers.

22 Q And then the second phase was moving the other ones, the  
23 SMSCs that handled the traffic coming from other networks  
24 into Sprint, right?

25 A Yes, the MT-SMSCs.

1 MR. GOETTLE: Okay, can we put up Exhibit 127?  
2 Which is already admitted, your Honor.

3 (Pause.)

4 BY MR. GOETTLE:

5 Q You've seen this document before, right?

6 A Yes, I have.

7 Q This is a document relating to the second phase of the  
8 transition from Comverse to Sprint's current vendor --

9 A Yes.

10 Q -- right? Okay.

11 MR. GOETTLE: Can you go to page -- it's page 34.

12 MR. FINKELSON: Mr. Goettle?

13 MR. GOETTLE: Yes?

14 MR. FINKELSON: Do you mind providing the witness?

15 I don't know --

16 MR. GOETTLE: Oh.

17 MR. FINKELSON: -- that he has a copy of the  
18 document.

19 MR. GOETTLE: I apologize.

20 THE WITNESS: Yeah, I don't think I have this one.

21 MR. GOETTLE: Sorry about that.

22 (Pause.)

23 MR. GOETTLE: May I approach, your Honor?

24 THE COURT: Yes.

25 BY MR. GOETTLE:

1 Q It was page 34 on the document, the original document.

2 MR. GOETTLE: You know what, let's -- I'm sorry,  
3 let's focus on the cover page. I apologize for that, Mr.  
4 Dyer (ph), can you go back to the cover page?

5 BY MR. GOETTLE:

6 Q The document title on this is "Next gen" -- that stands  
7 for generation, right?

8 A Yes.

9 Q "Next generation messaging and imaging."

10 A Yes.

11 Q Okay. So we're talking about Sprint's messaging, right?

12 A It's a design document related to messaging, yes.

13 Q And it's a design document related to messaging in terms  
14 of taking out Sprint's SMSCs and replacing them with new  
15 SMSCs?

16 A Yes, these were the -- this would have been the  
17 replacement of the MT-SMSCs.

18 Q Mobile-terminated SMSCs?

19 A Mobile-terminated, correct.

20 Q Okay. And that means those are the termination point for  
21 the message coming for example from other networks? Not --  
22 excuse me, not termination point, but those are the SMSCs  
23 that would be receiving the SMS from other networks?

24 A Those would have been the SMSCs delivering messages to  
25 Sprint devices.

1 Q That came for example from a Verizon subscriber?

2 A Yes, but I think at this time they weren't coming  
3 directly to the MT-SMSC.

4 Q There came a time when they were?

5 A I'm sorry, can you --

6 Q I thought you said at that time they were not going  
7 directly to the MT-SMSC, but implying that maybe they are  
8 today?

9 A Well, today there's only one SMSC, but there's still a  
10 component in front of it called the AAG.

11 Q Oh, I see. Okay. But the purpose of this project, just  
12 to get back on track and I apologize for that, the purpose of  
13 the project was to change out the SMSCs, right?

14 A Yes, it was a replacement of the Comverse MT-SMSCs and  
15 transitioning to the -- yeah, the SMSCs supplied by Acision.

16 Q Okay. And can you go to now page 34?

17 MR. GOETTLE: And, Mr. Dyer, can you blow up the  
18 third paragraph down, which is the big paragraph?

19 BY MR. GOETTLE:

20 Q And luckily we don't need to read the whole document, but  
21 the second sentence, do you see the second sentence there,  
22 sir, where it starts with "The gateway"?

23 A Yes, I do.

24 Q It says, "The gateway will translate SNPP messages and  
25 commands into SMPP messages and commands for use by the core



1 Sprint messaging network." Do you see that?

2 A Yes, I do.

3 Q And you wouldn't be surprised to see language like that  
4 in other documents, right?

5 A It's not a term we often use to say messaging network. I  
6 would just assume that's referring to the messaging  
7 components within our core network.

8 Q You would assume that what it means is other words than  
9 what are on the page?

10 A I'm just saying it's not a term we typically use on our  
11 team.

12 Q That wasn't my question. My question earlier was you  
13 wouldn't be surprised to see the term messaging network in  
14 other documents, would you?

15 A It's not a term I recall seeing often.

16 Q Again, sir, that's not my question. My question is you  
17 wouldn't be surprised to see the term used in other Sprint  
18 documents?

19 A If it were used, I would just assume it was in reference  
20 to messaging components within Sprint's core network.

21 Q Oh, I see. So if I showed you other documents where  
22 messaging network were used, the context for you would always  
23 mean within Sprint's cellular network?

24 A Yes, within Sprint's core network.

25 Q Sprint's core network of Sprint's cellular network?

1 A Yes, that's correct.

2 Q You understand, sir, that the main issue, the main issue  
3 in this case is what is Sprint's core network and what's  
4 included and what's not?

5 A Yes, I've heard that.

6 Q Yes. And that's a primary motivator for you to  
7 continually make sure you say core network to the jury in  
8 response to my questions, right, because you know that's an  
9 issue for the jury to decide?

10 A No --

11 MR. FINKELSON: Objection, your Honor --

12 THE WITNESS: -- I know that's the truth.

13 MR. FINKELSON: -- objection, your Honor --

14 THE COURT: Yes.

15 MR. FINKELSON: -- argumentative.

16 THE COURT: No, no need to answer. Objection  
17 sustained. It's argumentative.

18 BY MR. GOETTLE:

19 Q Sir, have you ever read the patent in suit in this case?

20 A No, I have not.

21 Q And you haven't read the claim constructions either?

22 A No, I have not.

23 Q So when you say core network, you don't mean to suggest  
24 to the jury that they should infer from that that when you  
25 say what's included in Sprint's core network that that's what

1 the patent means, you don't mean to imply that, do you?

2 A I've never read the patent, so I wouldn't be able to  
3 comment.

4 Q So you don't mean to imply that what you say what is  
5 inside Sprint's core network, you don't mean to imply to the  
6 jury that they should assume that that's what the patent  
7 means by core network elements?

8 A That was a long question.

9 Q Do you want me to repeat it --

10 A Yeah, please.

11 Q -- rephrase it? When you say, when you describe for the  
12 jury what is inside Sprint's core network as you understand  
13 it, okay, those elements that you say are within Sprint's  
14 core network, you don't mean to imply to the jury that they  
15 should assume that those elements meet the Court's  
16 construction of cellular network, do you?

17 A I wouldn't want to imply anything to the jury, I'm just  
18 giving the locations and placement of the messaging servers  
19 in our network.

20 Q Okay. So that's a no, you don't mean to imply it to the  
21 jury?

22 A Yes, I don't mean to imply it.

23 Q Okay. In your view, what is Sprint's core network?

24 A In my view, it contains the mobile switching centers, the  
25 HLR, messaging servers, packet data gateway nodes, and so we

1 put voicemail systems in there as well.

2 Q I missed that last part.

3 A I'm sorry, voicemail systems.

4 Q What about location, mobile positioning centers?

5 A That's not really an area I'm an expert in.

6 Q So you don't know one way or the other?

7 A No.

8 Q Sir, you testified about Picture Mail?

9 A Yes, that's correct.

10 Q Did Sprint's implementation of Picture Mail -- or I  
11 should say Syniverse, Syniverse's implementation of Picture  
12 Mail -- Syniverse was the supplier of the Picture Mail  
13 service?

14 A Yes, they were.

15 Q That's the company that supplied Picture Mail for Sprint?

16 A They were the company that ran Picture Mail.

17 Q And the Picture Mail service supplied to Sprint was  
18 compliant with the 3G-PP2 specifications, right?

19 A I'm not sure that it was completely.

20 Q Picture Mail, sir, started as a proprietary offering from  
21 Syniverse and then ultimately evolved into an MMS standard  
22 solution, right?

23 A Yes, that sounds right.

24 Q Okay. So it was complying with the 3G-PP2 MMS standards?

25 A I don't know if it was 3G-PP2 compliant necessarily. The

1 standard I'm more familiar referring to is OMA.

2 Q OMA?

3 A Yes.

4 MR. GOETTLE: Can I have PX-80? Can I have copies  
5 of that?

6 (Pause.)

7 MR. GOETTLE: May I approach, your Honor?

8 THE COURT: You may.

9 (Pause.)

10 THE WITNESS: Thanks.

11 BY MR. GOETTLE:

12 Q Have you seen PX-80 before?

13 A No, I don't believe so, unless you showed it to me in  
14 deposition.

15 Q Do you see at the top it says "Contract Order No. 37 to  
16 Master Application Service Provider Agreement"?

17 MR. FINKELSON: Your Honor, I just would object  
18 insofar as I don't believe this document is in evidence. I'm  
19 not sure if Mr. Goettle plans on publishing it or not.

20 MR. GOETTLE: Well, I haven't published it because  
21 it's not -- I don't plan to.

22 MR. FINKELSON: Okay.

23 BY MR. GOETTLE:

24 Q Did I read the title of the document correctly?

25 A Yes, I believe you did.

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1 Q And do you see in the next paragraph down it's a contract  
2 between Sprint and a company called Light Surf?

3 MR. FINKELSON: Your Honor, objection. The question  
4 lacks foundation. I don't think Mr. Goettle has established  
5 that the witness has ever seen the document before.

6 THE COURT: Well, he said unless it was shown to him  
7 in deposition he hasn't seen it. Was it shown to him?

8 MR. GOETTLE: It was not, your Honor.

9 THE COURT: Well, then he hasn't seen the document.

10 MR. GOETTLE: He has not seen the document before.

11 What I'm establishing using the --

12 THE COURT: Well, don't tell us what you're  
13 establishing.

14 MR. GOETTLE: Okay.

15 THE COURT: If you want to share that with me, we'll  
16 go to sidebar. It's inappropriate to tell me what you're  
17 trying to establish, let the jury hear it and then not  
18 establish it.

19 MR. GOETTLE: I certainly didn't mean to be  
20 inappropriate.

21 THE COURT: I know you didn't, but we're kind of  
22 overwhelmed with documents and most of mine are on a lower  
23 bench, it's beginning to tilt in that direction. Bottom  
24 line, are you going to continue with this document?

25 MR. GOETTLE: I would like to elicit testimony about

1 what this document says because the witness has said he  
2 doesn't know about something and this is a contract between  
3 Sprint and the company that I think will clear it up.

4 THE COURT: All right.

5 MR. GOETTLE: I can get to the rub in one question,  
6 if you want, your Honor.

7 THE COURT: Fine, ask another question. The last  
8 question was objected to and it was sustained.

9 BY MR. GOETTLE:

10 Q Can you read under the paragraph 1 there that says "Scope  
11 of service" to yourself?

12 (Pause.)

13 A Okay.

14 Q So the agreement, the arrangement between --

15 THE COURT: Well, no, the question is does that  
16 refresh your recollection as to the document and specifically  
17 whether you've seen the document before?

18 THE WITNESS: No. This is from 2004, so it would  
19 have been prior to me joining Sprint.

20 MR. GOETTLE: Can I withdraw the document, your  
21 Honor?

22 THE COURT: Fine.

23 BY MR. GOETTLE:

24 Q Does that document refresh your recollection as to  
25 whether Picture Mail's implementation -- or excuse me,

1 Syniverse's implementation of the Picture Mail was compliant  
2 with the 3G-PP2 specifications?

3 A No, it does not.

4 Q Why not? What else would you need to know?

5 A Well, it's just a line in a contract, it doesn't really  
6 give any details.

7 Q So you don't know as the head of messaging at the time  
8 when Picture Mail was discontinued from Sprint's network, you  
9 don't know one way or the other whether the Picture Mail  
10 service was compliant with the 3G-PP2 specifications?

11 A The Picture Mail service was hosted; it was mostly a  
12 black box, we didn't have a lot of visibility into how it  
13 actually worked.

14 Q But you had visibility into how it connected to Sprint's  
15 network, right?

16 A Yes, for a period of time during the transition there  
17 was, yeah, some interfaces between the Picture Mail platform  
18 and our in-network MMSC.

19 Q Actually there was interfaces between the Picture Mail  
20 platform and Sprint's SMSCs for the entire time it was in  
21 use?

22 A Right, an SMPP interface for notifications.

23 Q For notifications, right?

24 A Yes.

25 Q Okay. And that interface was standards compliant, right?



1 A It was an SMPP interface, I wouldn't necessarily say it  
2 was 3G-PP2 compliant.

3 Q You don't know one way or the other?

4 A No. I don't think SMPP in particular is mentioned in 3G-  
5 PP2.

6 Q How did you come to the conclusion of Sprint's SMSCs and  
7 MMSCs are part of Sprint's core network?

8 A They've just always been part of Sprint's core network  
9 ever since 1998 when Sprint first deployed SMS.

10 Q Sprint's messaging servers have been part of Sprint's  
11 core network of its cellular network since 1998, is that your  
12 testimony?

13 A Yes.

14 Q And how do you know that? You didn't work at Sprint in  
15 1998, so how do you know that?

16 A I just know that's where they've always been. They were  
17 first deployed at the mobile switching centers, which are  
18 also part of the core.

19 Q Did you come to that determination in part because of the  
20 protocols that the SMSCs use?

21 A Uh, no.

22 Q Did you come to that determination at least in part  
23 because of the wording of the patent in suit in this case?

24 A No. I've never read the patent in this case.

25 Q Did you come to that conclusion that Sprint's SMSCs are

1 core network elements by looking at the 3G-PP2 standards?

2 A No.

3 Q Did you come to that conclusion that Sprint's SMSCs are  
4 core network elements because Sprint owns them?

5 A No, not because they own them. I would say some of that  
6 conclusion is from the ANSI-41 standards, but I think in  
7 general messaging, voice and data have always been core  
8 services of Sprint.

9 Q So did you come to that conclusion after -- sorry, did  
10 you come to that conclusion by looking at who is operating  
11 and controlling the SMSC?

12 A I'm not sure I understand the question.

13 Q Did you come to that conclusion that Sprint's SMSC are  
14 part of Sprint's core network of its cellular network because  
15 Sprint operates and controls the SMSCs, is that why they're  
16 core network elements in your view?

17 A I don't know that that's what makes them core elements,  
18 but that is true.

19 Q It's true, but it doesn't weigh into one way or the other  
20 in your conclusion that Sprint's SMSCs are core network  
21 elements?

22 (Pause.)

23 A Well, to be core network elements they would have to be  
24 owned and operated by Sprint.

25 Q Okay. So it's because Sprint owns and operates them,

1 that's what makes them core network elements?

2 A I think that's a stretch but, I mean, it's maybe one of  
3 the reasons.

4 Q It's a stretch of a reason?

5 A It could be one of the reasons, it's not -- it's far from  
6 the only reason what makes it core.

7 Q Well, what makes it core it sounds like in your view is  
8 because Sprint offers it as one of its three services, voice,  
9 data and messaging, that's why it's core?

10 A If I described it in laymen's terms, yes.

11 Q Because voice, data and messaging are what Sprint does to  
12 make a living, those are revenue-generating things, products  
13 that Sprint provides?

14 A Generally, it is true that Sprint tries to make a profit.

15 Q That wasn't my question. My question was that you are  
16 telling the jury that Sprint's messaging SMSC are core  
17 network elements because messaging is one of the services  
18 that Sprint provides to its customers; have I summed it up  
19 correctly?

20 A Yes, it's one of the core services provided.

21 MR. GOETTLE: Can we put up PX-99?

22 THE COURT: No, let's take a break. It's not quite  
23 20 minutes after 3:00, we'll be in recess until 3:30.

24 (Jury out at 3:18 o'clock p.m.)

25 THE COURT: We're in recess until 3:30.

1 (Court in recess 3:19 to 3:49 o'clock p.m.)

2 (On return from recess, the sound system was not on  
3 for a brief time.)

4 Q ...page of PX-99 that you were talking about at your  
5 deposition, because it refers to an SMS message from a Sprint  
6 subscriber to another Sprint subscriber. Do you see that?  
7 Page 88, the question started on line 9.

8 A Yes, I do.

9 Q Okay, so the question at line 9 was "Question: And to  
10 your knowledge, does this diagram accurately represent the  
11 call flow for sending an SMS message from a Sprint subscriber  
12 to another Sprint subscriber?

13 "Answer: No.

14 "Question: What's inaccurate about it?

15 "Answer: The drawing shows an SMDPP ACK coming back  
16 from the SMSC prior to address validation being done, which  
17 is inaccurate.

18 "Question: So, would it be more accurate if the  
19 SMDPP ACK came back after the sub-found message that comes  
20 from the SPS back to the SMSC?

21 "Answer:" And I'm going to skip the objection.

22 MR. HANGLEY: I have no objection to you skipping  
23 the objection.

24 MR. GOETTLE: "Answer: It would be accurate if the  
25 SMDPP ACK was shown after, after the sub-found for the MT

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1 DIP." That was the questions and the answers, right, so far?

2 THE WITNESS: Yes.

3 BY MR. GOETTLE:

4 Q So, it's in the basis of that Q&A to get to the point  
5 where it's in the wrong spot, but it still happens, right?

6 A There's still an SMD taking message that --

7 THE COURT: What happened --

8 THE WITNESS: -- comes to the SMSC and  
9 acknowledgment that goes back, yes.

10 THE COURT: Excuse me?

11 MR. GOETTLE: Oh, I'm sorry.

12 THE COURT: We'll see how important this testimony  
13 was. I've just been told that since our return from recess,  
14 the recording equipment has not been on.

15 MR. GOETTLE: I'm sure it's in the vault for  
16 everybody in the room, your Honor. I don't know what the  
17 remedy is there.

18 THE COURT: Well, it's not going to be in the  
19 record. So, you didn't cover very much.

20 MR. GOETTLE: We didn't. Your Honor, I'm happy to  
21 proceed the way we're proceeding.

22 THE COURT: You don't need to repeat?

23 MR. GOETTLE: I don't think so, your Honor.

24 THE COURT: Go ahead.

25 MR. GOETTLE: That would make everybody happier if I

1 did not.

2 MR. FINKELSON: Just so I understand, is the  
3 equipment operational now?

4 THE DEPUTY CLERK: Yes.

5 MR. FINKELSON: Okay.

6 MR. GOETTLE: Mr. Hangleley is making a good  
7 suggestion to me that I just maybe do some questions just to  
8 summarize where we were in like three or four questions.  
9 Would that be all right with you, your Honor?

10 THE COURT: Yes.

11 MR. HANGLEY: With the understanding that Mr.  
12 Finkelson will object if he leads in the wrong direction as  
13 distinguishing after summarizing.

14 THE COURT: No, I think you can cover it that way.  
15 Is there any problem?

16 MR. FINKELSON: I have no objection to that. I was  
17 intending to questions.

18 THE COURT: All right.

19 (Pause.)

20 THE COURT: Let's go.

21 BY MR. GOETTLE:

22 Q Okay, maybe what I'll do is I'll finish this line, since  
23 we're on it right now. So, again, the deposition testimony  
24 that I just read into the record indicates that the error,  
25 the only error that got discussed so far is that the SMDPP

1 acknowledge of message is in the wrong spot, correct?

2 A Yes, it looks like that's the only thing I pointed out  
3 during deposition.

4 Q That's the only thing you pointed out during deposition,  
5 right?

6 A Yes.

7 Q And then you were asked, "Question:" and this is on page  
8 89, right following in this flow, page 89, line 4,

9 "Question: Other than modification, the one that we  
10 just talked about, is this diagram accurate?

11 "Answer: Yes, the rest of it looks correct."

12 THE COURT: And so, that makes sense, you're talking  
13 about PX-99 and the diagram is at page 6.

14 MR. GOETTLE: Yes, your Honor.

15 THE COURT: All right, go ahead.

16 MR. GOETTLE: Okay, so, in light of the recording --

17 THE COURT: Was that your answer at the deposition?

18 THE WITNESS: Yes, that was my answer at the  
19 deposition.

20 THE COURT: Fine.

21 MR. GOETTLE: I don't know what was on the record,  
22 but that the record --

23 THE COURT: Well, what was not on the record was the  
24 reference to core network in the deposition to which you've  
25 just referred. His deposition of June 5, 2014. And his

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1 answer -- the question and answer at page 35. And then you  
2 went to this diagram.

3 MR. GOETTLE: Okay. Actually, you know, it's just  
4 one question that I want to sum up.

5 Q Sir, in 1998, Sprint did not offer to its subscribers the  
6 ability to send and receive SMS messages, text messages,  
7 correct?

8 A In 1998, not send messages, there was just ability to  
9 receive messages -- SMS messages.

10 Q And that means that they were not receiving messages from  
11 other subscribers, right?

12 A No, I don't believe so.

13 Q Well, if a Sprint's subscriber couldn't send, then that  
14 Sprint subscriber would have nothing to receive, right?

15 A I think in 1998, there were other mechanisms of sending  
16 messages and having them delivered by SMS.

17 MR. GOETTLE: No further questions, thank you, your  
18 Honor. Do you need any docs, Dave?

19 MR. FINKELSON: I don't need any documents, thank  
20 you.

21 MR. GOETTLE: I'll get this binder out of the way.  
22 Who gets to ask questions at a deposition, Mr. Hoelzle?

23 REDIRECT EXAMINATION

24 BY MR. FINKELSON:

25 Q Who gets to ask questions at a deposition, Mr. Hoelzle?



1 A The lawyers.

2 Q The lawyers for the party taking the deposition, correct?

3 A Yes, correct.

4 Q Okay, which party took your deposition three times in  
5 this case?

6 A The lawyers from Comcast.

7 Q And did two of those depositions last for virtually the  
8 entire day, until after 4:00 o'clock?

9 A Yes, they did.

10 Q Did one of those depositions go until almost 2:00 o'clock  
11 in the afternoon?

12 A Yes.

13 Q Three depositions all told, is that right?

14 A That is correct. I only wish my kids were half as  
15 interested in what I did for a living.

16 Q In all of those hours of deposition, knowing the central  
17 issues in this case, how many times did Comcast ask you  
18 whether Sprint's messaging servers are part of the core  
19 network of its cellular network?

20 A I don't think I was ever asked that question.

21 Q Do you think that's because they didn't want to know the  
22 answer?

23 MR. FINKELSON: Withdrawn, your Honor.

24 MR. GOETTLE: No questions, your Honor.

25 THE COURT: Thank you. You may step down, sir,

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1     thank you very much.

2             THE WITNESS:   Thank you.

3             MR. FINKELSON:   And your Honor, Mr. Hoelzle is here  
4     pursuant to a subpoena.   I raised the issue with Comcast  
5     whether they were prepared to release him, they've implicated  
6     that they would like to hold on to the ability to potentially  
7     recall him in their rebuttal case.   So, he's leaving today,  
8     but will be made available should Comcast wish to present him  
9     at that time.

10            THE COURT:   But you're releasing him from the  
11     subpoena obligation?

12            MR. FINKELSON:   They're the subpoenaing party.   I  
13     don't think they are.   They're maintaining the subpoena  
14     obligations with the understanding that he would come back in  
15     their rebuttal case, should they like to call him.

16            THE COURT:   Have you -- yes, he's a Sprint employee.  
17     Is that a correct statement and have you so advised Mr.  
18     Hoelzle?

19            MR. GOETTLE:   Yes, we have, your Honor.

20            THE COURT:   But he's still employed by Sprint?

21            MR. GOETTLE:   He is.

22            THE COURT:   And so he can be directed to return.

23            MR. FINKELSON:   Oh, absolutely and he will.   I was  
24     just making clear for the record that he will be made  
25     available to testify again, should --

1 THE COURT: It wasn't necessary for Comcast to  
2 subpoena.

3 MR. FINKELSON: Well, it did.

4 THE COURT: Fine, now you have agreed to produce  
5 witnesses who are presently employed by Comcast and Sprint,  
6 have you not?

7 MR. FINKELSON: I don't know that we've reached that  
8 formal agreement, but we certainly -- there's been no  
9 instance where the parties have not done that.

10 THE COURT: Fine, I don't think it's necessary to  
11 subpoena -- for Comcast to subpoena Sprint employees or for  
12 Sprint to have to subpoena Comcast employees. So, I'm  
13 directing with any employee witnesses who are needed, of  
14 course, who have not yet testified, be produced.

15 MR. FINKELSON: Understood, your Honor. Your Honor,  
16 may we proceed with our next witness?

17 THE COURT: You may.

18 MR. FINKELSON: Sprint calls Ramesh Golla.

19 (Pause.)

20 THE DEPUTY CLERK: Please raise your right hand.

21 RAMESH GOLLA, Witness, Sworn.

22 THE DEPUTY CLERK: Please be seated. Please speak  
23 loudly and state your whole name and spell it for the record,  
24 please?

25 THE WITNESS: My name is Ramesh Golla. I work for

1 Sprint.

2 THE COURT: How do you spell your name, Mr. Golla?

3 THE WITNESS: R-A-M-E-S-H, last name is G-O-L-L-A.

4 DIRECT EXAMINATION

5 BY MR. FINKELSON:

6 Q Good afternoon, Mr. Golla, how are you?

7 A Good afternoon.

8 Q You've drawn the prized 4:00 p.m. slot.

9 A Thank you.

10 Q Can you introduce yourself to the jury, please, sir?

11 A My name is Ramesh Golla. I work for Sprint as a manager.

12 Q And what do you do at Sprint, Mr. Golla?

13 A I am a manager at Sprint. I am responsible for serving  
14 equipment, especially subscriber profile system, which is  
15 SPS. Which is a database that stores subscriber data.

16 Q Do you have a technical background, sir?

17 A Yes, I do have computer science background.

18 Q And how did you first get into computer science?

19 A I'm from a small village in India, around 10,000 people  
20 and for India, 10,000 people is considered a small village.  
21 I always wanted to be an engineer, so I went to college,  
22 getting my Bachelor's in Computer Science. And at that time,  
23 computer science at very early stages, computers were scarce.  
24 We used to use something called punch cards when they first  
25 started computer science. And then we had to prove ourselves

1 even to touch the computer and we didn't get to touch the  
2 computer until second year of our college. And since then, I  
3 hooked on to computer science.

4 Q Can you explain to the jury what a punch card is?

5 A Punch card is nothing but, you know, I think in olden  
6 days, we used to have timesheets, where we used to put inside  
7 into the machine and it punches the, you know, time. And  
8 just similar to that, in initial stages, we used to have  
9 these punch cards were needed to punch the codes on that card  
10 and then feed that to the computer, so the computer can read  
11 the program. So, these are very early stages and we used to  
12 use that in the beginnings.

13 Q When did you get your college degree and in what field?

14 A I got my college degree in 1990 in computer science.

15 Q And what did you do after that, Mr. Golla?

16 A My father always wanted to send somebody from the family  
17 to the United States, so I was the lucky one and my father  
18 sponsored me to come to United States and I went to  
19 University of Mississippi to do my Master's in Computer  
20 Science. And after I completed my Master's in Computer  
21 Science in '93, I moved to Macon, Virginia.

22 Q And that was at the University of Mississippi from which  
23 you got your Master's in Computer Science?

24 A That is correct. It is called Ole Miss.

25 Q And you said you went to Northern Virginia, what did you

1 do in Northern Virginia once you completed your studies at  
2 Ole Miss?

3 A I went to work for a company specializing in database  
4 systems and initially, since then I lived in Macon, Virginia  
5 and for the last -- since I moved into Macon, Virginia, I  
6 lived there until now with my family. And I also received,  
7 I applied for citizenship and ten years back, I got my U.S.  
8 citizenship to become a U.S. citizen in the U.S.

9 Q When did you first start working with Sprint?

10 A I started working for Sprint in 2003. Actually, I  
11 started in Nextel as a project manager, working in a wireless  
12 number portability project. Then after the merging with  
13 Sprint, I continued on working as a project manager in work,  
14 at that time, known as Vision LDAP. Which is a LDAP  
15 database, subscriber database that is used for data  
16 authentication. Which is, this is similar to what is, at  
17 that time, called messaging LDAP that is used for messaging.

18 Q So, the LDAP for data, did you say that was called the  
19 Vision LDAP?

20 A That is correct.

21 Q And the LDAP for messaging at that time, was that -- what  
22 was that called?

23 A It was called messaging LDAP.

24 Q And was the messaging LDAP at Sprint used for anything  
25 other than messaging, Mr. Golla?

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1 A No, only messaging servers access messaging LDAP.

2 Q When were you first involved with the SPS?

3 A As part of my involvement in database systems, I was  
4 first given in charge of subscriber profile system and  
5 initially, I was an interim manager and then I got promoted  
6 to a permanent manager and since then, I've been working on  
7 SPS subscriber profile system until now. Even to today, I,  
8 you know, I manage SPS system and the team.

9 Q And over time, have certain devices been migrated to  
10 access the SPS for subscriber data?

11 A Yes, that is correct. You know, so SPS initially, under  
12 my management, we installed SPS in Sprint and then various  
13 databases were migrated into SPS. And then, from then on,  
14 various climbs -- climbs is nothing but what the systems that  
15 accesses SPS for subscriber authentication. One of them was  
16 Triple AAA, it is called Authentication Authorization and  
17 Accounting server, which is used for data services. And then  
18 similar to that was messaging servers and messaging servers  
19 later also migrated to use SPS as the subscriber databases.

20 Q Was that after Triple AAA had migrated to use the SPS?

21 A That is correct. First it was Triple AAA that was  
22 migrated and then after that, messaging servers were migrated  
23 to use SPS.

24 Q And I think you said and correct me if I'm wrong, that  
25 today, you're the manager of the SPS?

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1 A That is correct. I was the manager of SPS since it was  
2 started and continue to be managing that platform. I  
3 fortunate to even receive -- recent in 2015 -- a subgraphics  
4 (ph) excellence award in Sprint, which is a very prestigious  
5 award, is given to only a very handful of people and it was  
6 recommended with my teammate and it was reviewed by VPs and  
7 senior VPs and was issued to very view individuals among  
8 thousands of nominations.

9 Q What is the name of the individual to whom you report at  
10 Sprint?

11 A I report to Greg O'Connor.

12 Q And who else reports to Mr. O'Connor, to your  
13 understanding?

14 A Various people who is responsible for our core network  
15 elements are reporting to Greg O'Connor, including Acision  
16 team.

17 Q Mr. Golla, where is the SPS located?

18 A The SPS is located in three core network sites along with  
19 messaging servers.

20 (Pause.)

21 MR. FINKELSON: Your Honor, may I approach with a  
22 binder for Mr. Golla and take away the other one?

23 THE COURT: You may.

24 MR. FINKELSON: Thank you.

25 (Pause.)



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1 MR. FINKELSON: Your Honor, may I move into evidence  
2 DX-215, DX-232 and DX-233, all of which I believe are  
3 unobjected to.

4 MR. GOETTLE: No objection, your Honor.

5 THE COURT: DX-215, 232 and 233 are received in  
6 evidence.

7 (Defense Exhibits 215, 232 and 233 received in  
8 evidence.)

9 BY MR. FINKELSON:

10 Q Mr. Golla, I'd like to start by having you look at  
11 DX-215, sir?

12 A Okay.

13 Q Are you familiar with this document? I'll give it a  
14 second to come up on the screen for everybody to see, as  
15 well. Are you familiar with DX-215, Mr. Golla?

16 A Yes, I am familiar with this document.

17 Q What is DX-215?

18 A This is the design document of subscriber profile system.  
19 It mainly contains the physical locations, as well as the  
20 design of SPS, subscriber profile system for engineering  
21 purposes and this is some version of this document has been  
22 existing since 2007.

23 Q What is the importance of the title, design document?

24 A Design document is very important document. Most of the  
25 engineers in Sprint, who is working on SPS, rely on this

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1 document as well as some of our suppliers and vendors also  
2 rely on this document.

3 Q I believe, if we turn to page 8 of the document, there's  
4 a list of individuals on the project team. Mr. Golla, were  
5 you a member of this team?

6 A Yes, my name is listed, yes.

7 Q If we could turn to page 6, Mr. Baird. What is shown,  
8 Mr. Golla, on page 6 of this document, DX-215?

9 A These are the three core sites where the SPS is located,  
10 along with the messaging servers. These are two listed as  
11 North Bunker and South Bunker in Lanexa and Reston,  
12 Reston Data Center. This is the address that is shown in  
13 Reston, is that is where I work. The ground floor is where  
14 our data center is and in the first floor, where I work.

15 Q Now, Mr. Golla, I believe your referred to these as core  
16 sites, did I understand your testimony correct?

17 A That is correct, these are the core network sites.

18 Q And is that, in fact, how Sprint's design document for  
19 the subscriber profile system, the SPS, describes the sites?

20 A Yes, that is correct.

21 Q Where do you see that on the page that the jury is  
22 looking at, page 6, of PX-215?

23 A So, you can see it talks about the three core -- that I'm  
24 now saying the description, it says SPS infrastructure to  
25 three core sites.

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1 Q And again, what are the three core sites that are  
2 identified in this design document?

3 A So, one is called North Bunker in Lanexa, Kansas. Second  
4 one is Reston, Virginia. Third one is South Bunker, that is  
5 also in Lanexa, Kansas.

6 Q Can we please turn, Mr. Baird and Mr. Golla to page 22 of  
7 this SPS design document, DX-215? Can you tell the jury, Mr.  
8 Golla, what is shown on page 22 of DX-215?

9 A These are the three core sites that are referred as C-1,  
10 C-2 and C-3. Like I just mentioned, they are in -- C-1 is in  
11 Lanexa, which is the North Bunker. C-2 is in Reston and C-3  
12 is in South, which is found also in Lanexa, Kansas.

13 Q And what does C stand for, according to this document,  
14 sir?

15 A It's referring as C for core site on C-1, C-2, C-3.  
16 There are three core sites.

17 Q And can you highlight that, please, Mr. Baird, where it  
18 says C, core site, both there and also to the left by the C.  
19 Is that what you are referring to, Mr. Golla?

20 A That is correct.

21 Q As manager of the SPS, Mr. Golla, are you responsible for  
22 managing the equipment covered in this document?

23 A That is correct, I was responsible. I am still  
24 responsible for this.

25 Q Does this document accurately describe where the SPS is

1 located?

2 A Yes, it does.

3 Q Does it accurately use the word, core sites?

4 A Yes, it does.

5 Q Did you and your team put the word, core sites, in this  
6 design document at Sprint for any reasons relating to this  
7 lawsuit, sir?

8 A No, this has been there from the beginning, from 2007,  
9 when SPS was installed in these core sites, as well as -- and  
10 in these core sites, the previously Vision LDAP was also part  
11 of these in starting these core sites. So, this has been  
12 there as long as I, you know, I've been working on these  
13 platforms.

14 Q If you put the words, core site, in this document for  
15 purposes of this lawsuit, if you put that in a Sprint design  
16 document for purposes of this lawsuit, what would happen to  
17 you, Mr. Golla, at the company?

18 A I would not be in the company.

19 Q You'd be fired?

20 A I'd be fired for that, yes. I cannot do anything for  
21 this lawsuit. Like I mentioned again, this has been there as  
22 a core site from the beginning, you know, I've been -- in  
23 Sprint. These core sites have been existing since that time  
24 and SPS, as well as messaging servers have been in this core  
25 site all along and there is nothing, you know, the version of

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1 this document has been existing since 2007. It will clearly  
2 show that all these years we have been referring these as  
3 core sites and nothing has changed just because of this trial  
4 or for this, you know, for the sake of just the lawsuit.

5 Q Was there a period of time where just the AAA was  
6 accessing the SPS at the core sites -- I'm sorry. Or just  
7 that -- let me ask it again. Was there a period of time  
8 where just the Triple AAA was accessing the SPS?

9 A Triple AAA has been accessing SPS from the beginning.  
10 That is, like I mentioned, Triple AAA was the first element  
11 that was migrated to access SPS and SPS has been in these  
12 core sites, at least, in the two core sites, C-1 and North  
13 Bunker and Reston from the beginning and then there was a  
14 third copy was in regional data centers and at one point,  
15 that was migrated to the third core site, which is, you know,  
16 South Bunker, which is the South, so since then it has always  
17 been in this Triple AAA was -- Triple AAA systems were  
18 accessing SPS in these three core sites. And then, when we  
19 migrated the messaging servers, messaging servers started  
20 accessing SPS in these three core sites.

21 Q So, are you familiar with versions of this document that  
22 are earlier in time and that pre-date the time period when  
23 Sprint's messaging servers used the SPS?

24 A Yes, there is a version of this document, like I  
25 mentioned, existed from 2007, that's when we started working

1 on SPS and it would show SPS is in the core sites.

2 Q And would it also show that Triple AAA was there?

3 A Triple AAA was accessing the data in these core sites.

4 Q Would it discuss messaging at that point in time, given  
5 that messaging wasn't using the SPS yet?

6 A No, in the 2007, it would not, you know, discard Acision,  
7 because if we did not start with Acision, we started with the  
8 Triple AAA, you would see in the Triple AAA in the beginning  
9 and then, at a later versions of the document, you would see  
10 messaging accessing SPS.

11 Q Can you turn to page 23, Mr. Golla, of DX-215? I think  
12 it's the following page. Can you explain to the jury what is  
13 shown here?

14 A This table is showing all the network elements, what we  
15 call claims, accessing the SPS in the core sites, especially  
16 you can see the triple S (indiscernible) accessing SPS in the  
17 code sites, as well as the messaging servers accessing SPS in  
18 these three core sites.

19 Q I believe you mentioned that one of the sites, the Reston  
20 site is in the same building in which you work, do I have  
21 that right, Mr. Golla?

22 A That is correct.

23 Q And can you just go into that Reston location any time  
24 you want?

25 A No, I cannot. Even though I have access to the building,

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1 I first -- you know, my access only I can go into the offices  
2 in my second floor, but if I have to go into the data center  
3 I need a special access, I need to get a special permission  
4 to get into the, you know, data centers. And also that  
5 special access I need to request for that, every Sprint  
6 employee need to request to get into this -- any of the core  
7 sites. And even in the access request we clearly have to  
8 mention what is the purpose we are going and from what time  
9 to what time we will be in that facility and why we are going  
10 there. And if you have to put any equipment in there or  
11 remove any equipment, we have to get a special permission on  
12 top of even getting the, you know, access. So all of the  
13 equipment that goes into these core sites is tracked and, you  
14 know, we cannot do any -- we cannot remove any equipment or  
15 put any equipment back without proper, you know, paperwork  
16 that is completed.

17 Q Today are Sprint's SPS databases, as well as the SMSC and  
18 MMSC messaging servers located at these core sites?

19 A Yes, that is correct.

20 Q I'd like to ask you a few questions about a document that  
21 has been already admitted into evidence by Comcast, it's  
22 document PX-120 that's in your binder, sir.

23 (Pause.)

24 Q Do you have that, Mr. Golla?

25 A Yes, I do.

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1 Q Have you seen this document before?

2 A Yes, I have seen this document.

3 Q Do you recognize the names of the folks who wrote it?

4 A Yes, I do. They were part of my team when I wrote this  
5 document.

6 Q Did they report to you?

7 A Yes.

8 Q And is your name on this document as well, this document  
9 PX-120?

10 A Yes, my name is there on page 3.

11 (Pause.)

12 Q Returning to the front page, what is the title of this  
13 document and what was its purpose, Mr. Golla?

14 A This is the interface specification document for the AAA  
15 servers accessing SPS. This lists how to place servers,  
16 authentication, authorization and accounting servers can  
17 access the SPS system.

18 Q Does this document to your knowledge mention messaging?

19 A This never mentioned messaging because this particular  
20 document is primarily for AAA accessing the SPS and there is  
21 no reason to mention messaging in this because messaging is  
22 not part of this interface specification document. Any  
23 client -- client, what we call it is any servers that are  
24 accessing SPS we call that as a client. So here in this is  
25 called a AAA is the client and AAA is accessing the SPS, so



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1 that's why in this document you will only see anything  
2 referring to AAA and nothing about messaging.

3 Q What is the date of this document, Mr. Golla?

4 A It's 2009.

5 Q As of 2009 were the messaging servers at Sprint sending  
6 queries to the SPS yet?

7 A No. So only AAA like I said, you know, answer  
8 previously, AAA was the first element that was accessing SPS  
9 and at 2009 AAA was -- I mean messaging servers were not  
10 accessing SPS.

11 Q Can you turn to page 7 of PX-120?

12 (Pause.)

13 Q And tell the jury in this interface specification  
14 document that was prepared by folks who report to you what is  
15 shown on this page?

16 A Here the main focus is on the AAA at the center of the  
17 document that shows AAA accessing LDAP server, which is  
18 nothing but the SPS server, and this is mainly representing  
19 how the flow of, you know, various network elements are in  
20 the flow for the data authentication, which is nothing but  
21 how, you know, you can access Internet on your phone. So  
22 this is showing all the flow path of that, you know,  
23 accessing the Internet through AAA. Again, this is being AAA  
24 interface specification document, that's why it is focusing  
25 AAA in the center of the document diagram, and it is showing

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1 the flow path and how various elements are involved in this  
2 particular flow path.

3 Q Thank you, Mr. Golla. You can put PX-120 to the side and  
4 I'd next ask you to turn to what has been admitted as DX-233.

5 (Pause.)

6 Q Do you recognize DX-233, sir?

7 A Yes, I do.

8 Q Can you explain to the jury what DX-233 is?

9 A This is the interface specification document, slash  
10 (indiscernible) document. Just like what we saw in PX-120,  
11 that was the interface specification document for AAA and  
12 this is the interface specification document for messaging  
13 servers.

14 Q Was this document prepared by one of your employees or a  
15 person who reported to you?

16 A Yes, this was also prepared by one of the employees in my  
17 team.

18 MR. FINKELSON: And can you turn, Mr. Baird, to  
19 section 1.3 on page 4 that shows the project team?

20 BY MR. FINKELSON:

21 Q Again, as we saw in the prior document, Mr. Golla, are  
22 you identified as a member of the team with respect to DX-  
23 233?

24 A Yes. My name is here as the SPS manager.

25 Q To your knowledge, does DX-233 mention the AAA?

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1 A No, it does not mention AAA, because just like I was  
2 talking about in the PX-120 it was only mentioning about AAA  
3 and here we only mention about messaging because this is --  
4 this document is pertaining to messaging and nothing to do  
5 with AAA servers.

6 Q Can you please turn to page 20 of the document? And  
7 we'll give Mr. Baird an opportunity -- oh, he's there before  
8 me and before you I think. Page 20.

9 (Pause.)

10 A Okay.

11 Q Can you describe for the jury what's being set forth here  
12 in the summary section of paragraph 4.3?

13 A These are the various credentials that are available for  
14 messaging servers to access the data. This is nothing but,  
15 you know, how we access our email system, we have to use a  
16 user name and password, just like that here these are  
17 credentials that are available for messaging servers to  
18 access SPS. Like you can see the first one is a Pom and it  
19 is used by Acision SLP, which is part of our Acision SMSC  
20 systems, and then EPM is a different user credentials that is  
21 used by Syniverse Picture Mail, which is our MMSC system  
22 which is not part of Sprint core network.

23 Q Let me ask you about both of those. I think the first  
24 one you said is Pom, P-o-m; did I get that right, sir?

25 A That is correct.

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1 Q And you mentioned the reference to Acision SLP and do you  
2 understand that to be part of Sprint's Acision SMSC?

3 A That is correct.

4 Q And then a different credential, EPM, for Syniverse  
5 Picture Mail?

6 A That is correct.

7 Q And why are there different credentials or different keys  
8 for Sprint's Acision SMSCs as opposed to the Syniverse  
9 Picture Mail?

10 A We follow general security guidelines and any system that  
11 is accessing SPS we would provide different user ID and, you  
12 know, password credentials. And also the Acision SLP and  
13 Acision of SMSCs, because of they are Internet messaging  
14 systems and we gave a key that is, you know, what we call it  
15 as master key, which Pom is kind of a master key. Just like,  
16 you know, we give our house key to somebody who we really  
17 trust and not to give it to anybody, just like that this Pom  
18 is a master key that we created and that is given to only our  
19 Internet messaging systems. And whereas EPM is a separate  
20 key that is created only using Syniverse Picture Mail and  
21 Syniverse MMSC systems, just like, you know, if you want to  
22 get access to some of the rooms, we only give a specific key,  
23 you know, to that particular room, not for the whole house.  
24 Q You just used the words internal messaging systems; did I  
25 hear you correctly, Mr. Golla?

1 A That is correct.

2 Q Can you turn to the next page of this document, page 21?  
3 Do you see a reference there to Sprint's -- or, excuse me, to  
4 internal messaging systems?

5 A Yes. You can see in section 4.4 that Acision SLP. And  
6 this is what I was mentioning, the Pom in the previous  
7 diagram (indiscernible) Pom, P-o-m, is used for Acision SLP  
8 and here we are referring that as internal messaging system.

9 Q And does that include Sprint's short message service  
10 centers?

11 A That's correct, Sprint's SMSCs.

12 Q And why do you call them at Sprint internal messaging  
13 systems in this document?

14 A The reason we call it internal messaging system is it is  
15 part of our core network, they're in our core data centers  
16 and they're part of our core network.

17 Q I want you to look, please, Mr. Golla, at the last  
18 document in your binder, it's the last one I'm going to show  
19 you, and it is DX-232. Do you recognize this document, sir?

20 A Yes, I do.

21 Q And can you tell the jury what DX-232 is?

22 A This is the -- a Nokia-prepared document, it's called  
23 functional specification document.

24 Q Did you say Nokia prepared it, sir?

25 A That is correct.

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1 Q And why is this document DX-232 with respect to the SPS  
2 prepared by Nokia?

3 A Nokia is the vendor who provided the software for SPS, so  
4 that is the reason. Nokia was actively involved in initially  
5 developing, as well as making sure that, you know, the system  
6 is working, and that's why Nokia produced this document as  
7 part of that effort.

8 Q And what is this Nokia document called, sir?

9 A It is called functional specification and conception data  
10 model for subscriber profile system.

11 Q Is this a formal document, Mr. Golla?

12 A Yes, it is a formal document that is provided by Nokia.

13 Q Can you please turn to page ending in 1101, Mr. Golla,  
14 and also Mr. Baird, of DX-232, section 3.6.

15 (Pause.)

16 Q If you use the numbers, I think it's page 34 of the  
17 document.

18 A Oh, okay. Thank you.

19 Q Too many numbers.

20 A Yes.

21 Q Can you tell the jury, Mr. Golla, what this document from  
22 Nokia says in section 3.6?

23 A Nokia is showing the various user credentials that are  
24 used to access SPS, just like we talked about the internal  
25 messaging system. Nokia is referring Pom is used by internal

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1 messaging systems and EPM and other user credentials are used  
2 by various other messaging servers such as Syniverse Picture  
3 Mail, which is MMSC at that time.

4 Q Do you have an understanding of what this document from  
5 Nokia is referring to when it says internal messaging  
6 systems?

7 A Nokia is referring to SMSCs, Sprint SMSCs that are  
8 located in this core network data centers.

9 Q Is EPM used anymore as a user ID or a key at Sprint?

10 A EPM is not used anymore because once we migrated the MMSC  
11 systems to within Sprint's internal messaging systems then  
12 even MMSC started using of a master key called Pom just like  
13 it was using for SMSCs, so MMSC also started using Pom as the  
14 user credentials instead of EPM. EPM is no longer in use  
15 today.

16 Q And so as of today are Sprint's SMSCs and Sprint's MMSCs  
17 internal messaging systems as that term is used in DX-232  
18 from Nokia to Sprint?

19 A That is correct.

20 Q Thank you, Mr. Golla.

21 MR. FINKELSON: Your Honor, I have no further  
22 questions for the witness at this time.

23 THE COURT: How long do you think you'll be?

24 MR. GOETTLE: Longer than five minutes, your Honor.

25 THE COURT: Well, then I think we'll break. It

1 really doesn't make any sense to start your cross-examination  
2 and stop it.

3 MR. GOETTLE: I do think it will be relatively quick  
4 tomorrow morning, but it might feel kind of long today.

5 THE COURT: I've heard that before and I've  
6 experienced it before. And what that means, if he has a  
7 chance to prepare his cross-examination now that he's heard  
8 the direct examination, hopefully it will be shorter rather  
9 than longer. So we'll recess.

10 First, you may step down, Mr. Golla.

11 Same instructions I gave you at noontime. Don't  
12 discuss the case among yourselves. If anyone tries to talk  
13 to you about the case, say nothing to them and report that to  
14 me. If anything happens to be written in any newspaper that  
15 deals with the case, broadcast on radio or television, don't  
16 read it, don't listen to it, don't watch it.

17 Have a safe trip home. We'll start tomorrow morning  
18 at 9:30. It's not quite 20 of 5:00, so we're getting a  
19 slightly earlier than usual start on the trip home. See you  
20 tomorrow.

21 (Jury out at 4:36 o'clock p.m.)

22 THE COURT: Be seated, everyone. Is there anything  
23 we need to address this evening?

24 MR. GOETTLE: Not for Comcast, your Honor.

25 MR. FINKELSON: Your Honor, if we might just make



1 our omnibus motion to move the un-objected-to exhibits into  
2 evidence. Given the timing, some of the items on our omnibus  
3 motion were dealt with in the ordinary course today, but  
4 there's a number of other exhibits that have not.

5 So if I could ask Ms. Rachford to present that  
6 motion to the Court.

7 THE COURT: You may.

8 MS. RACHFORD: So Sprint moves to admit into  
9 evidence the following exhibits which are listed on --

10 THE COURT: How many are on the list, Ms. Rachford?

11 MS. RACHFORD: I believe it is about --

12 (Pause.)

13 THE COURT: You don't have to --

14 MS. RACHFORD: It's a number of them, I think it's  
15 about 60 or 65 --

16 THE COURT: Sixty?

17 MS. RACHFORD: -- exhibits, yes. The good news is  
18 five of them were already admitted into evidence today.

19 THE COURT: Good. Well, what we'll do since I don't  
20 want to hang around and I don't think we all ought to hang --  
21 have to hang around as you read 60 numbers into the record,  
22 my thought is we can -- you'll present the motion, if there's  
23 no objection -- tell me the title of the motion again.

24 MS. RACHFORD: It is Sprint Spectrum LP's omnibus  
25 motion, and a proposed order is attached, to admit un-

1 objected-to exhibits into evidence.

2 THE COURT: Fine. If you'll hand it up, I'll sign  
3 it.

4 MS. RACHFORD: That was easy.

5 THE COURT: I didn't mean to cut short your  
6 participation.

7 MS. RACHFORD: That's okay, I'm not offended.

8 MR. FINKELSON: If we're going to proceed like that,  
9 your Honor, maybe we should try a more substantive motion  
10 while we're at it.

11 (Laughter.)

12 MS. RACHFORD: Do you want me to state for the  
13 record which ones already are in evidence or does that not  
14 matter?

15 THE COURT: I don't think it matters --

16 MS. RACHFORD: Okay.

17 THE COURT: -- whether they're in or are now coming  
18 in. How do you propose that we make this a matter of -- is  
19 there an order? Yes.

20 MS. RACHFORD: Yes, the order should be attached --

21 THE COURT: Yes, yes.

22 MS. RACHFORD: -- at the end.

23 THE COURT: I'm striking the word "proposed" and I'm  
24 signing it.

25 (Pause.)

1 THE COURT: I note that you haven't filled in the  
2 year, did you think this trial would take --

3 (Laughter.)

4 THE COURT: -- I mean, it's February, it's not  
5 December. Did you --

6 MR. GOETTLE: What year is it?

7 MS. RACHFORD: You never know.

8 THE COURT: Oh, yes, we do know.

9 MS. RACHFORD: Yes, I guess we do know.

10 THE COURT: We do know, it's 2017. All right, the  
11 motion is granted. How do you want to make this a matter of  
12 record?

13 MS. RACHFORD: We were going to electronically file  
14 a copy this afternoon, if that works --

15 THE COURT: Yes.

16 MS. RACHFORD: -- for you? Okay, we will do that.

17 THE COURT: And then it's a matter of record, I  
18 don't think we have to put it on the record as part of the  
19 transcript. I'll give you -- you can electronically file,  
20 the original has been signed -- well, we'll docket it,  
21 Michael, we'll docket the original.

22 THE DEPUTY CLERK: Okay.

23 THE COURT: All right.

24 MS. RACHFORD: Thank you.

25 THE COURT: Do I need copies of these deposition

1 transcripts, particularly the one that we didn't use much of?  
2 They're all Comcast. I don't think so. Mr. Hoelzle, I think  
3 one is Mr. Yarosky and -- I have two from Mr. Yarosky and a  
4 third -- well, Mr. Wilson, I don't think I need his. Give  
5 these back.

6 We'll start tomorrow at 9:30. How are we doing  
7 schedule-wise, where is Comcast? Comcast is -- where is  
8 Sprint in its -- I'm sorry, by that I meant Comcast's case in  
9 chief is completed. Where is Sprint?

10 MR. FINKELSON: I think we're moving along well,  
11 your Honor. Our expectation after Mr. Golla we have a short  
12 video deposition and then one more witness to present live.  
13 And I don't expect that last witness to take very long.  
14 We'll then move forward with our expert witnesses on the  
15 technical aspects of the case starting, I would expect  
16 tomorrow morning before the lunch break, and I would think  
17 that we would complete those by Thursday and that we would  
18 start with our damages experts hopefully if we get it right,  
19 at some point maybe midday or afternoon on Thursday, and that  
20 continues into Friday as we raised with the Court.

21 Mr. Riopelle left today to be at home with his  
22 family. The actual services are this weekend and then on  
23 Monday. So we would still ask the Court's permission to stop  
24 at the lunch hour on Friday and then have Monday be a day  
25 that we're not in session so that we can return on Tuesday.

1 If we do that, we'll finish our case in chief by Tuesday, and  
2 I would think that we would be on course to, you know,  
3 depending on the length. Mr. Goettle and I talked about it  
4 briefly off the record, but depending on the length of the  
5 rebuttal case I still think the jury should be able to get  
6 the case by Wednesday or Thursday at the latest.

7 THE COURT: Do you agree?

8 MR. GOETTLE: I do, you Honor.

9 THE COURT: The only witnesses with respect to  
10 invalidity are the experts; is that correct?

11 MR. GOETTLE: Correct. So we have our non-  
12 infringement expert, Mr. Planning, will be our first  
13 technical expert tomorrow. And then Dr. Nathaniel Polish  
14 will be speaking to invalidity. And then as Comcast did,  
15 we'll have two experts speaking to damages.

16 THE COURT: Have you given any consideration to  
17 working things out so that at the end of the week Friday and  
18 Monday you're in liability or invalidity and infringement and  
19 not damages. You save those, well, it's a day and a half.

20 MR. GOETTLE: Not specifically, your Honor. We didn't  
21 know exactly how the case was going to go. And Mr. Riopelle  
22 is the person who is going to be handling the damages aspects  
23 of the case and he now won't be returning back to  
24 Philadelphia until sometime tomorrow. I'm not sure. I would  
25 think in the afternoon.

1 THE COURT: So this won't work.

2 MR. FINKELSON: And that would be difficult for us  
3 under the circumstances. Obviously If the way the evidence  
4 proceeds if some how, some way we were still doing technical  
5 aspects come Friday, which I really think is very unlikely,  
6 I'd certainly say to the Court let's proceed and do that.  
7 I'll be the one presenting those witnesses. But I do think  
8 we'll probably be at the damages part. That's the bad news.  
9 The good news is that we'll be at the damages part and we  
10 should be relatively on course for a conclusion or on course  
11 for a conclusion on the time line I described.

12 THE COURT: What I'm concerned about, as you might  
13 imagine, is not finishing this case while I'm still here.  
14 I'm leaving town at the end of the fourth week. I built in  
15 not only an extra half week - you said two weeks to try the  
16 case. I built in two and a half weeks for the case, but have  
17 not scheduled anything that I have to attend to in the  
18 courtroom for the rest of the third week which will be next  
19 week and the fourth week. But I'm concerned with jury  
20 deliberations.

21 I had occasion, and I can recall this not very  
22 fondly, although the end result worked out, the jury got the  
23 case just before I left the country, deliberated for a day  
24 but didn't finish. We provided for jury deliberations to be  
25 handled by another judge. It's a very complicated process.

1 And in this case I don't think we can do it because the other  
2 judge has to certify that he or she is thoroughly familiar  
3 with the case. It just won't work. We'll do some research  
4 if we get to that. But the bottom line is that although that  
5 jury continued to deliberate and I answered all their  
6 questions remotely, it wasn't a very satisfactory procedure.  
7 What I'm thinking of doing if we end up that way with me  
8 leaving the case not over, declaring a recess.

9 MR. FINKELMAN: Your Honor, when are you - it's just  
10 that I don't have a calendar in front of me.

11 THE COURT: I do. And maybe you think I'm being  
12 overly cautious. The jury was I think for five day, five  
13 days in that other case. It was complicated. It involved  
14 the shipment of embargoed weapons to Iran, and it wasn't as  
15 complicated as this one.

16 MR. FINKELMAN: But more consequential to be sure.

17 THE COURT: I'm leaving on February 26<sup>th</sup>.

18 MR. FINKELMAN: I think, I think, your Honor, much  
19 as I understand that you've had that prior experience, I  
20 think that it would be a very unusual scenario, even though  
21 it's a patent case, it would be a very unusual scenario for a  
22 patent case. Let's say the jury gets the case on Thursday or  
23 Friday of the next week for them to still be deliberating by  
24 the following Friday, I have not seen or heard of a  
25 deliberation quite that long -

1 THE COURT: Good.

2 MR. FINKELMAN: - in a patent case in some time.

3 MR. GOETTLE: Yeah, I agree. It seems unlikely.

4 THE COURT: Well, you've raised my comfort level a  
5 bit. I still think for example today with the constant use  
6 of acronyms, I think the jury is going to have a difficult  
7 time deciding the case. I don't see this as a quick verdict.  
8 But keep in mind that's my schedule, and we're going to have  
9 to adhere to it.

10 MR. GOETTLE: We understand certainly, your Honor.

11 THE COURT: Well, the plan will be to charge the jury  
12 next week, sooner rather than later. We'll have a charging  
13 conference before the end of this week. There are one or two  
14 loose  
15 ends. I'm a little puzzled by the Comcast testimony that  
16 Comcast seeks a rolling royalty. I think I heard that  
17 correctly.

18 MR. GOETTLE: The running royalty.

19 THE COURT: And yet you object to presenting that -  
20 that's the real issue that's hanging me up right now with  
21 respect to the charge. The other issues I think we can  
22 address very quickly. So be prepared to discuss that when we  
23 conduct the charging conference probably either Wednesday or  
24 Thursday. Maybe tomorrow.

25 All right. Is there anything else?



1 MR. HANGLEY: May I talk to Mr.Finkelson for a  
2 moment?

3 (Pause.)

4 MR. FINKELSON: Mr. Hangley was just asking me  
5 whether we needed Mr.Riopelle for the charging conference.  
6 He has been responsible for those aspects but I'm happy to  
7 take that on, depending on when your Honor wants to have the  
8 charging conference. Certainly Mr. Riopelle will be there on  
9 Thursday.

10 THE COURT: And keep in mind that whatever we decide  
11 at the charging conference is not the end of, well, changes  
12 in the charge. Hopefully we'll get it right sooner rather  
13 than later, but you have until we give the charge to put your  
14 objections on the record. Nothing that we do before that  
15 time will preserve your record if you have any objections to  
16 the charge. My goal will be to present a charge to the jury  
17 to which you have no objections. But you'll put your  
18 objections if any on the record after I deliver the charge,  
19 we'll do it at sidebar.

20 MR. GOETTLE: Yes, your Honor.

21 MR. FINKELSON: Thank you, your Honor.

22 THE COURT: All right. See you tomorrow morning at  
23 9:30. Have a good evening.

24 ALL: Thank you, your Honor.

25 THE COURT: Thank you. You may go about your

1 business.

2 (Court adjourns for the day a 4:51 o'clock p.m.)

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CERTIFICATION

I hereby certify that the foregoing is a correct transcript from the electronic sound recording of the proceedings in the above-entitled matter.

s:/Geraldine C. Laws, CET  
Laws Transcription Service

Date 2/7/17